MACHINING/ MANUFACTURING (MAMT)

Courses

MAMT 101 Introduction to Manufacturing 2 Credits
Broad overview of the world of manufacturing. The course will include: people, materials, machines, design, organization, waste, quality, and other subjects which affect society and production of a product.
Terms Typically Offered: Fall, Spring.

MAMT 102 Machining Fundamentals 1 Credit
Concentrated unit dealing with speeds and feeds of machines, materials, tooling, tapping, boring, and manufacturing processes.
Terms Typically Offered: Fall, Spring.
Fees: Yes.

MAMT 105 Print Reading and Sketching 2 Credits
Reading of blueprints and process sheets as used in industry and application of that information to various manufacturing processes.
Terms Typically Offered: Fall, Spring.

MAMT 106 Geometric Tolerancing 2 Credits
Identification, interpretation, and application of the blueprint symbols (referred to as Geometric Tolerancing symbols) in machining and inspection operations.
Prerequisites: MAMT 105 (may be taken concurrently).
Terms Typically Offered: Fall, Spring.

MAMT 115 Introduction to Machine Shop 3 Credits
Focus on safety procedures in machining, including: using bench tools, layout tools, power saws, and taps; sharpening general purpose drills; grinding lathe bits; and identifying and operating basic machines, such as the bench grinder, drill press, band saw, and others.
Terms Typically Offered: Fall, Spring.
Fees: Yes.

MAMT 120 Machine Technology I 4 Credits
Focus on the operation of engine lathes, milling machines, and surface grinders.
Prerequisites: MAMT 115 (may be taken concurrently).
Terms Typically Offered: Fall.
Fees: Yes.

MAMT 125 Machine Technology II 4 Credits
Advancement of skills acquired in MAMT 115. Emphasis will be placed on technical aspects of tooling and machining tolerances.
Prerequisites: MAMT 115.
Terms Typically Offered: Fall, Spring.
Fees: Yes.

MAMT 145 Machine Maintenance 2 Credits
Focus on maintaining, lubricating, and repairing machinery, including making gib adjustments, selecting and using proper lubricants, and selecting or manufacturing parts for making repairs, with emphasis on workmanship and inspection.
Terms Typically Offered: Spring.
Fees: Yes.

MAMT 148 CNC Applications 3 Credits
Introduction to Computer Numerical Control (CNC) programming basics, CAM software, and tooling used in today's manufacturing CNC milling machines and CNC lathes.
Prerequisites: MAMT 115.
Terms Typically Offered: Fall, Spring.
Fees: Yes.

MAMT 170 Practical Applications 3 Credits
Development of a working knowledge in manufacturing through co-op, internship, work experience, or required lab work in industrial study, if outside work cannot be acquired.
Terms Typically Offered: Fall, Spring.

MAMT 196 Topics 1-3 Credits
Course may be taken multiple times up to maximum of 15 credit hours.

MAMT 199 Internship 1-4 Credits
Course may be taken multiple times up to maximum of 6 credit hours.

MAMT 207 Introduction to Statistical Process Control 2 Credits
Introduction to the philosophical and economic bases for statistical process control (SPC) and its use. Includes mathematical and non-mathematical SPC techniques, with emphasis on application.
Terms Typically Offered: Fall.

MAMT 230 Machine Technology III 4 Credits
Exploration of advanced machine operations, including: precision grinding, CNC vertical milling centers, and CNC lathes, with an emphasis on workmanship, accuracy, and quality control.
Prerequisites: MAMT 115.
Terms Typically Offered: Spring.
Fees: Yes.

MAMT 240 Job Shop Machining II 3 Credits
Comprehensive capstone course utilizing all the machine tools in the machining laboratory. Further development of writing process sheets, estimating machine time, and performing final inspections on finished projects. Development of prototypes and reverse-engineering concepts using CNC machine tools and 3D printers.
Prerequisites: MAMT 115.
Terms Typically Offered: Fall, Spring.
Fees: Yes.

MAMT 251 CNC Machining I 3 Credits
Exploration of computerized numerical control (CNC) machining operations, including control of functions, programming format, CNC machining setup, and operation.
Prerequisites: MAMT 148.
Terms Typically Offered: Fall, Spring.
Fees: Yes.

MAMT 255 CNC Machining II 3 Credits
Further development of concepts introduced in MAMT 251. Emphasis on advanced operations of CNC machine tools.
Prerequisites: MAMT 251 (may be taken concurrently).
Terms Typically Offered: Fall, Spring.
Fees: Yes.

MAMT 260 Properties of Materials 3 Credits
Exploration of the processes of smelting and refining various types of metals. Discussions and demonstrations on heat-treatment, hardness testing, and molecular manipulation of metals.
Terms Typically Offered: Fall, Spring.

MAMT 295 Independent Study 1-4 Credits
Course may be taken multiple times up to maximum of 6 credit hours.

MAMT 296 Topics 1-3 Credits
Course may be taken multiple times up to maximum of 15 credit hours.