

MANUFACTURING TECHNOLOGY Course Description

DDET 281 - Statistical Process Control (3)

Pre-requisite: MATH 100. Students learn to use hardware and software as they apply to quality assurance in the manufacturing process. Students study design of experiments, sampling technique, SPC, control chart applications and developments, and process reliability.

MT 105 – Manufacturing Concepts and Practices I (3)

Pre-requisites: MATH 100 and ENGL 100. This is an introductory course providing exposure to the basic history, development, and knowledge of the manufacturing industry and providing a study of the manufacturing process in a general manner.

MT 115 – Manufacturing Concepts and Practices II (3)

Pre-requisites: ENGL 101 and MT 105. Topics presented are engineering metrology and instrumentation, testing and evaluating practices, safety and product liability, human factor engineering, manufacturing in a competitive environment, developments in CNC and robotics, material handling methods, cellular manufacturing, and Just-In-Time production methods.

MT 120L – Manufacturing Processes and Equipment (4)

Pre-requisites: MT 115 and MT 201. Presents the history of manufacturing from the standpoint of the type of facilities, the methods used in the selection of materials, and the processes and equipment selected for projects. The integration of Computer-Integrated systems is presented in detail along with group technology, cellular manufacturing, and Just-In-Time production methods.

MT 201 – AutoCAD and Blueprint Reading for the Machine Trades (3)

Pre-requisite: MT 115. This course offers the necessary knowledge to draw, read, and interpret blueprints, machine layouts, and engineering drawings. A clear progression from the simplest to the most complex multidimensional drawings is provided. Advanced Geometric Dimensioning and Tolerancing is presented.

MT 211L – Introduction to Computer Numerical Control (4)

Pre-requisite: MT 115. Exposure to current CNC mill and lathe lab equipment and training software is blended into the theory to provide immediate experience and reinforcement of the concepts of Computer Numerical Control of industrial machines.

MT 212L – Advanced Computer Numerical Control (4)

Pre-requisite: MT 211L. Using current CNC mill and lathe lab equipment and training software, manufacturing projects will be undertaken that enable the performance of actual processes in CNC Programming, operation, and satisfactory completion of projects.

MT 247 – Materials Science and Analysis (3)

Pre-requisite: MT 120L. This course explores the science associated with the materials that are available for processing in the manufacture of components, methods of joining and bonding materials, and the chemical properties of those materials.