MIT - MANUFACTURING AND INDUSTRIAL ENGINEERING TECHNOLOGY

MIT 3500 Machine Tool Laboratory Cr. 1
Laboratory experiences in manufacturing processes, machine tools, and mechanization. Calibration and part-setup. Offered Fall, Winter.
Prerequisites: ET 2140 with a minimum grade of C-

MIT 3520 Manufacturing Processes Theory Cr. 2
Nature and deformation behavior of materials commonly used in manufacturing; basic processes used in transforming them into useful products; scientific theory underlying those processes; criteria for selecting particular processes. Offered Fall, Winter.
Prerequisites: CHM 1020 with a minimum grade of C- and MIT 3500 with a minimum grade of C- (may be taken concurrently)

MIT 3600 Process Engineering Cr. 3
Processing functions. Methods of manufacturing analysis. Manufacturing sequence, mechanization. Selection of tooling and equipment. Planning the process of manufacture. Offered Yearly.
Prerequisites: MIT 3520 with a minimum grade of C-

MIT 4700 Computer-Aided Design and Manufacturing Cr. 3
Fundamentals of computer-aided manufacturing using computer software. Two- and three-dimensional applications programming, numerical control and programming. Offered Fall.
Prerequisites: MIT 3600 with a minimum grade of C-
Course Material Fees: $25

MIT 4800 Quality Control Cr. 4
Introduction to total quality systems design and to basic analytical techniques for quality control. Offered Intermittently.
Prerequisites: ET 3850 with a minimum grade of C-

MIT 4990 Guided Study Cr. 1-6
Supervised study and instruction in the field selected by the student. Offered Intermittently.
Repeatable for 6 Credits

MIT 5500 Machine Tool Laboratory Cr. 1
Laboratory experiences in manufacturing processes, machine tools, and mechanization. Calibration and part-setup. Offered Fall, Winter.
Prerequisites: ET 2140 with a minimum grade of C-

MIT 5700 Industrial Robots Modeling and Simulation Cr. 4
Topics include: the direct kinematic problem (homogeneous transformation matrices, composite homogeneous transformation matrix, links, joints and their parameters, the Denavit-Hartenberg representation, kinematic equations for manipulators); the inverse kinematic problem (geometric approach applied for 2DOF, 3DOF, 4DOF, 5DOF, and 6DOF manipulators; modeling, simulation and off-line programming of industrial robots and cobots (collaborative robots); and current trends and research in industrial robotics and cobotics. Offered Winter.
Prerequisites: ET 3430 with a minimum grade of C-

MIT 7700 Robotics and Flexible Manufacturing Cr. 4
Kinematics, dynamics and controls of the manipulators, their design and applications in flexible manufacturing cells. Computer-integrated manufacturing. Offered Intermittently.
Prerequisite: ET 7430 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.