

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Semester: IV

Plastic Engineering

Subject Code: 742401

Subject Name: **Advanced Mould Manufacturing Technology**

Sr.No	Course content
1.	<p>Programming and Operation of Cnc Machines:</p> <p>Introduction – Co-ordinate system – Dimensioning – Axes and motion nomenclature – Part programme structure – Tool compensation – MDI – Sub-routines – Canned cycle – Machining cycles – Programming examples for Machining centre – Turning centre – Introduction to Computer and CAD/CAM</p>
2.	<p>Programming and Operation of Cnc Machines:</p> <p>Introduction – Co-ordinate system – Dimensioning – Axes and motion nomenclature – Part programme structure – Tool compensation – MDI – Sub-routines – Canned cycle – Machining cycles – Programming examples for Machining centre – Turning centre – Introduction to Computer and CAD/CAM</p>
3.	<p>Productivity Solutions for The Manufacturing of Moulds & Dies:</p> <p>CNC Tooling – Different tool materials – Applications – Different tool coatings – Endmills – Ballnose – Selection criteria – Chip thickness with milling cutters – special tools for die and mould making – Tool presetting – Effective and efficient process planning</p>
4.	<p>Advanced Manufacturing System:</p> <p>Introduction – Mould making techniques – Electronic data processing (EDP) – Mould making using computer integrated manufacturing – CAD for part construction – Interfaces – Softwares – CAD mould design – Data preparation for machining operation – advantages of machining using CAM – Reverse engineering – Rapid prototyping</p>
5.	<p>Design of Modern Cnc Machines :</p> <p>Introduction – Machine structure – Guide ways – Feed drives – Spindles / Spindle bearings – Measuring systems – Controls, software and User Interface – Gauging – tool monitoring system – Ball screw and nut – Feedback element – Equipment for assembly – Troubleshooting</p>

Reference Books:

1. Cyril Donaldson George H. Lecain V.C. Goold, Tool Design, TATA McGraw-Hill, 1998.
2. Richard R. Kibbe John E Neele, Roland O Mayer, Warran White, Machine Tool Practices, Prentice Hall of India Pvt. Ltd., 1999.
3. Stoeckhert Mennig, Mould Making Hand Book, Hansel Publishers.