Course Type	Course Code	Name of Course	L	T	P	Credit
DC	MEC306	Computer Aided Manufacturing	3	0	0	9

Course Objective

- To provide detailed understanding of advances in manufacturing particularly in computer numerical control.
- To understand working principle work Numerical control.
- To provide knowledge about in computer control material handling system.

Learning Outcomes

Upon successful completion of this course, students will:

- have a broad understanding of classification of automation system.
- have an understanding about basics of Numerical Control.
- be able to design different types of control systems.
- be able to learn different CNC programming and simulation software.

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Introduction to Automation and mechanization, basic elements of an automated system, level of automation	5	Understanding basic difference between automation and mechanization. Also strategies adopted for implementation of automation.
2	Numerical Control of machine tools, different types of controls, point to point, continuous path, digital and analog control, absolute and relative, NC system devices,	7	Learn about classification of CNC system, and their application
3	Computer numerical control (CNC), Direct numerical control (DNC), adaptive control of manufacturing processes, Flexible manufacturing system, Computer Integrated Manufacturing.	11	Understanding of different configuration and level of CNC control, Importance of FMS and CIM system
4	Computer-process interface, NC part programming, APT	10	Learn about computer programming and also simulation of machining process
5	Computer aided material transport and storage system including Industrial robots, AGVs, Introduction to Additive Manufacturing process.	9	Basic knowledge about the different computer controlled material handling system and their control.

Text Books:

1. Computer control of Manufacturing system, Yoramkoren, McGraw Hill Publication.

Reference Books:

1. Machining and Metal Working Handbook, Ronal A Walsh and Denis Cormier McGraw Hill Publication.
2. Machining and CNC Technology, M. Fitzpatrick, McGraw-Hill Publication.