

Branch Name:	Mechanical Engineering (CAD/CAM) Mechanical Engineering (Production Technology)
Program Code:	ET201, ET209
Course Name:	Computer Integrated Manufacturing - Practical
Course Code:	2ET2010301P
Pre-requisite Course:	UG level subjects on CAD, CAM and Industrial Engineering

Course Objectives:

1. To use computers in the area of manufacturing to reduce manual processing and linking computers to all the manufacturing machines and increase the productivity, reduce the unnecessary costs.
2. Familiarize with Computer aided quality control and Flexible manufacturing systems.
3. Integrate all production and support process using computer network, cross-functional business software and other information technologies.

Teaching and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								Total (Marks)
					Theory (Marks)				Practical (Marks)				
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
01	-	-	02	02	-	-	-	-	10	25	10	25	50

Subject Contents:

Sr. No	Detail of Practical	Contact Hours
1	Introduction of Computer Integrated Manufacturing (CIM)	04
2	Automated Flow Lines in CIM	04
3	Automated Assembly System	02
4	Automatic Material Handling and Storage Systems	02
5	Automated Inspection System	02
6	Cellular Manufacturing Systems	04
7	Flexible Manufacturing Systems	04
8	Computer Aided Enterprise	04
9	Assignments	-

List of Reference Books:

1. Mikell P Groover, "Automation, production Systems and Computer Integrated Manufacturing", 3rd Edition, Prentice Hall Inc., New Delhi, 2007.
2. Nanua Singh, "System Approach to Computer Integrated Manufacturing", Wiley & Sons Inc., 1996.
3. Andrew Kusiak, "Intelligent Manufacturing System", Prentice Hall Inc., New Jersey, 1992.
4. David Bedworth, "Computer Integrated Design and Manufacturing", 1st Edition 1999, TMH, New Delhi,
5. Yorem Koren, "Computer control Manufacturing Systems", McGraw Hill, 1999.
6. Ranky, Paul G., "Computer Integrated Manufacturing", Prentice Hall International 1999

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Understand the manufacturing automation strategies and derive production metrics.	2 Understanding
CLO2	Explain the knowledge about role of computer and automation in manufacturing.	2 Understanding
CLO3	Analyze automated flow lines and assembly systems, and balance the line.	4 Analyze 3 Applying
CLO4	Learn Computer Aided Process Planning (CAPP) Systems, Cellular Manufacturing Systems and Automated Inspection systems.	2 Understanding
CLO5	develop understanding about Automated Material Handling Systems, Automated Inspection Systems	3 Applying
CLO6	Learn application of Flexible Manufacturing Systems (FMS)	5 Evaluating

Mapping of CLOs with POs & PSOs:

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes(PSOs)	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CLO1	M		M										M	
CLO2				M			M					L	M	
CLO3		M	M						M					M
CLO4	M					M					L		L	
CLO5			M					M				L		L
CLO6					M					M	M			M

H:High, M:Medium, L:Low