	National University of Sciences and Technology
	Course Description

Course Title	Course Code	Credit Hours
Computer Integrated Manufacturing	DME 814	**3 – 0**

Textbook:

- Automation, Production Systems and Computer Integrated Manufacturing by Mikell P. Groover, Prentice Hall, 3rd Edition or latest.
- Principles of Computer Integrated Manufacturing by S Kant Vajpayee, 1995 Prentice Hall India. Reprinted in 2006

Reference Books:

- Computer Integrated manufacturing, by James A. Rehg, Prentice Hall (1994)

- Agile-Based Manufacturing and Control Systems: New Agile Manufacturing Solutions for achieving Peak Performance by Massimo Paolucci and Roberto Sacile, CRC Press (2004).

- Journals & Web Sites:

Course Objective:

- The objectives of the course are to familiarize the students with Integrated Manufacturing Techniques in Industry, Manufacturing Systems and use of Computers in the industrial environment

Course Outline:

- Phases of General Introduction of CIM & Analysis of Manufacturing Systems: Research Paper, Product & Process Design for CIM: Introduction to GT, Product & Process Design for CIM: Cellular Manufacturing, ROC, SCM, Machine Cell Design. Types of Machine Cells, Hollier's Methods, Flexible Manufacturing Cells & Systems, Quantitative Analysis of Flexible Manufacturing Systems, Bottle neck methods, Planning & Control in a CIM Environment, Process Planning, CAPP, Facility Layout and Types, Designing Process Layout, Line balancing, Designing Product Layout, Product Structure Information, Master Production Schedule (MPS), Planning Functions, MRP, MRPII, Order Release, Shop Floor Data Collection, The Product Design Process, CAD Systems, Analysis Packages, Manufacturing Information Systems (MIS), Factory Information Systems (FIS) & manufacturing Simulation, Factory Information Systems, Management Information Systems (MIS), The Model, Simul8 Software, Manufacturing Simulation

ASSESSMENTS

Description	Percentage Weightage (%)
Assignments	05-10%
Quizzes	10-15%
Mid Semester Exams	30-40%
End Semester Exam	40-50%