

COURSE PROSPECTUS

Name of the Group : CAD/CAM
 Name of the Course : Post Graduate Diploma in CAD/CAM
 Course Code : MT900
 Duration : 6 Months

Preamble:

The introduction of computers and digital electronics in the manufacturing industry has revolutionised in automation. With the advances in digital electronics and computer technology, adopting integrated Computer Aided Design and Manufacturing (CAD/CAM) has become relevant in medium scale industries. To start (implementation or study) CAD/CAM one must have basic understanding and knowledge of Computers and Electronics, various CAD tools, CNC Machines, Automated Material handling systems like AGV/RGV, ASRS, Industrial Robots, FMS & CIM.

Objective of the Course:

The course is aimed at giving exposure to and enhancing the knowledge and skills of fresh graduate engineers and engineers involved in the operation use of CNC machines, CAD/CAM packages and for those who want to provide training to others in this area. It gives exposure and on hand experience in the field of CAD/CAM, Industrial Robots, CNC machines, FMS & CIM.

Outcome of the Course:

The participants will be able to:

- Understand the concepts of CAD and CAD tools
- Design and drafting of Part Modelling and Assembling Modelling in 2D and 3D models, and structural & thermal analysis
- Understand the working of CNC Machines, Robots, Machine Vision
- Design and machine using CAD/CAM packages like Creo (Pro/Engineer) Surface Design and Machining using Creo (ProEngineer)
- Design cell level in FMS and CIM
- Hand-on exposure to real life CIM environment
- Understand advanced features of CAD/CAM

Course Structure:

<i>Module</i>	<i>Duration</i>
<i>Computer Aided Design</i>	<i>2.5 Months</i>
<i>Computer Aided Manufacturing</i>	<i>2 Months</i>
<i>Computer Integrated Manufacturing</i>	<i>2 Weeks</i>
<i>Project work</i>	<i>1 month</i>

Other Contents

- a. **Course Fees:** ₹60,000 plus GST (Fee can be paid in two installments viz: first installment ₹35,000 plus GST and second installment of ₹25,000 plus GST)
- b. **Eligibility:** B. E, B. Tech., in Mechanical, production Tool & Die, Automobile and Industrial engineering
- c. **Number of Seats :** 20

d. **Selection of candidates:** The candidates passed in the qualifying examination will be based on their marks obtained, subject to eligibility and availability of seats.

e. **Counseling/Admission: 25/09/2017**

f. **Admission Procedure :**

Students who have been selected for test/interview/counseling/admission are required to report to the Institute on the prescribed day by 9:30 hrs along with the following

1. Attested Copies of Proof of Age, Qualifications, etc
2. Original Certificate of the above
3. Two copies of photograph and one stamp size photograph for identity card.
4. SC/ST Certificate (if applicable)
5. Income Certificate (if applicable)

The students on reaching the Institute are required to meet the Front Office Councilor (FOC). The FOC then directs the student to the Course Coordinator. The student gets the enrollment form verified by the Course Coordinator and then meets the FOC who shall direct the student to the Accounts for payment of fees. A student is thus admitted.

g. **Discontinuing the course:** No fees under any circumstances shall be refunded in the event of a student discontinuing the course. A student can however, be eligible for module certificates (applicable only for courses which provide for modular admission) which he has successfully completed provided he has paid the entire course fees.

h. **Course Timings :** 9:30 to 5:00 PM

i. **Placement:** Support shall be provided

j. **Hostel facilities:**

Hostel accommodation is available for boys and girls on daily or monthly chargeable basis. However, students are required to pay the hostel fees for the duration of the course for which they are seeking admission at the time of joining the course.

k. **Canteen facilities :**

The Centre has a canteen functioning at the main campus and food at reasonable rates is available for breakfast, lunch, and dinner

l. **Lab Facilities:**

CAD/CAM lab consists of CNC Machines Tools (Lathe and Milling), Latest versions of Creo (formerly Pro/engineer), CATIA V5, Mastercam X8, AutoCAD,

Autodesk Inventor Professional, 3D Scanner, 3D Printer, PCs with higher RAM and Graphics cards.

m. Faculty

The centre has a team of enthusiastic and competent engineers with postgraduate qualifications who have undergone specialized training in various International Universities and Industries.

n. Course Contents :

Computer Aided Design (2.5 months)

- Fundamentals of CAD, 2D Modelling,
- 3D Modelling: Concepts, Wireframe, Surface, and Solid Modelling
- Part Modelling, Part Detailing, Feature Based Modeling, Free form modeling, Assembling modeling, and Drafting
- Analysis: model evaluation: behavioral modeling, model checking, and design editing. Three types of analysis : Structural, Motion and Thermal

Computer Aided Manufacturing (2 months)

- Fundamentals of NC/CNC, NC Part Programming, Conventional versus CNC Machine, NC Programming through CAD/CAM, Chucking and Turning Centres, Machining Centres, Maintenance and Trouble Shooting of CNC Machine Tools
- 2D and 3D Machining sequences like Volume mill, boundary mill, Pocketing, Lathe operations and all relevant machining sequences for Lathe and Milling. CNC Machines

Computer Integrated Manufacturing (2 weeks)

- Fundamentals of CIM, Group Technology and Computer Aided Process, Planning, AGV/RGVs, Automated Storage and Retrieval Systems (ASRS), Computer Aided Inspection, Introduction to Machine Vision, Industrial Robotics, Robot Task Programming, Modelling and Simulation, Design of a Manufacturing cell using the CIM software, MRP & MRP II

Project Work (1 month)

This module enables participants to undergo complete hands-on training and problem solving for the topics they choose.