بسم الله الرحمن الرحيم

Practice

Design for manufacture- Laboratory

MED 421 : CAD-CAM Laboratory

3 Cr. hrs. = [2 Lect. + 2 Tut + 1 Lab] . Prerequisite: MED 321

Laboratory:

01 Practice on CAD/CAM computer packages with case studies.

02 Programming of Lathe, Drilling, and Milling Machines with producing standard pieces.

03 Programming of a Robot to follow a specified path in space for loading and unloading CNC Machines.

Credits : 1

1-Experiments to demonstrate the features of CNC machines,

2-CNC programming on turning and milling machines,

3-Study of the geometry of the robot manipulators, actuators, 5grippers and experiment on robot programming and simple sensor experimentation.

4-Demonstration of basic CAD-CAM systems, generation of tool path from product geometry using CAD-CAM simulation tools, Robot simulation modelling.

5-Computer Integrated Manufacturing

Credits : 1

1-Concept of Computer Integrated Manufacturing (CIM); Basic omponents of CIM; Distributed database system; distributed communication system,

computer networks for manufacturing; future automated factory;social and economic factors.

2-Computer Aided Design (CAD): CAD hardware and software; product modelling, automatic drafting;engineering analysis; FEM design review and evaluation; Group Technology Centre.

3-Computer Aided Manufacturing (CAM): Computer assisted NC part programming; Computer assisted robot programming; computer aided process pl(MRP); computer aided production scheduling; computer aided inspection planning; computer aided inventory planning; flexible manufacturing system (FMS); concept of flexible manufacturing; Integrating

3-NC machines, robots, AGVs, and other NC equipment; Computer aided quality control; business functions,computer aided forecasting.

4-Management Information Systems (MIS), Various CIM systems - examples

Project

Credits : 2

Students will be exposed to lecture modules on Project and Thesis work followed by assignment of individual projects involving manufacturing/production/design of an engineering product. An industrial project may also be undertaken by the student to be supervised jointly by Industry personnel and the teacher.

Vacational Training

Credits : 2

Students undergoing Vacational training in Semester - VI will be given credit in Semester - VII. Students shall have to submit a report endorsed by the Industry Training Manager/ Lab-in-charge of R & D Organisation.

Seminar on assigned topic

Credits : 2

Each student will be required to give a seminar talk along with a report on any current topic with audiovisual

aids, graphs, charts and models as assigned to them on individual basis.