ME 601 : Automation , CNC Machines and Robotics
Contacts : 4L
Credits : 4

Basic principles of automation; Hard Automation, Flexible Automation Extending the capabilities of conventional machines through improved devices and manipulators; Transfer Machines for Assembly, Multispindle Automatics, Basic principles of numerical control; Methods of coding and programming; CNC, DNC and Machining Centres; Manual Programming, Computer Aided (APT) programming; Adaptive control; Economics of numerical control.

Introduction to Robotics: Synthesis of elements with movability constraints; classification and specification of robots, Laws of Robotics, Elements of robot anatomy; Hydraulic, pneumatic and electrical manipulators; End-effectors and their design; Robot Controllers with microprocessors or fluidics; Sensors – Tactile and non tactile type; Performance analysis of industrial robots and their manufacturing applications; Economics of robotics.