



NON TRADITIONAL ABRASIVE MACHINING PROCESSES ULTRASONIC, ABRASIVE JET AND ABRASIVE WATER JET MACHINING

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TYPE OF COURSE : Rerun | Elective | UG

COURSE DURATION : 4 weeks (18 Jan' 21 - 12 Feb' 21)

EXAM DATE : 21 Mar 2021

INTENDED AUDIENCE : Interested students

COURSE OUTLINE :

This course will define the areas of application of non-traditional abrasive machining processes in the manufacturing industry. The lectures would introduce the basic principles of material removal by impact erosion by use of abrasives against hard and brittle materials. The technology of the manufacturing processes will be explained in detail. The machines used for USM, AJM and AWJM would be discussed. A variety of numerical problems would be solved. Material removal rates for the above processes would be worked out and effects of various input factors on the outputs of interest would be discussed.

ABOUT INSTRUCTOR :

Prof. Asimava Roy Choudhury received his B.E. (Mechanical) Degree from Jadavpur University in 1983, M.Tech. (Machine Tools Engg) from IIT Kharagpur in 1984 and Ph.D. (Engg) from IIT Kharagpur in 1999. Asimava Roy Choudhury is at present a professor in the Mechanical Engineering Department of IIT Kharagpur. His interests include: Computer numerical control, Direct slicing in Rapid Prototyping, Non-traditional manufacturing processes and Laser coating of surfaces.

COURSE PLAN :

Week 1: Introduction and Ultrasonic machining (USM)

Week 2: USM -Contd.

Week 3: Abrasive Jet Machining (AJM)

Week 4: Abrasive water jet machining (AWJM)