



NONLINEAR ADAPTIVE CONTROL

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IIT Delhi

TYPE OF COURSE : Rerun | Elective | PG

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

EXAM DATE : 21 Mar 2021

PRE-REQUISITES : Nonlinear Systems/Nonlinear Control

INTENDED AUDIENCE : NIL

COURSE OUTLINE :

This is an advanced course on control system design, covering fundamental aspects of adaptive control. A general methodology is developed for systematic design of controllers for systems with parametric uncertainty. It is expected that the students interested in taking this course should have a basic understanding of Lyapunov Stability Theory and working knowledge of MATLAB/Simulink.

ABOUT INSTRUCTOR :

I am currently an Associate Professor in the Department of Electrical Engineering at IIT Delhi. I am part of the Control and Automation group, and work in the area of nonlinear control and applications. Prior to joining IITD, I did my MS and PhD from the University of Florida, Gainesville, where I was part of the Nonlinear Controls and Robotics Lab. Research Interests: Nonlinear and Adaptive Control, Robotics, Autonomous Systems, Reinforcement Learning Control, Approximate Dynamic Programming

COURSE PLAN :

Week 1: Introduction to Adaptive Control

Week 2: Model Reference Adaptive Control

Week 3: Robust Adaptive Control - 1

Week 4: Robust Adaptive Control - 2