INTRODUCTION TO EXPERIMENTS IN FLIGHT

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IIT Kanpur

TYPE OF COURSE : Rerun | Core | UG
COURSE DURATION : 4 Weeks (15 Feb’ 21 - 12 Mar’ 21)
EXAM DATE : 24 Apr 2021

PRE-REQUISITES : Aircraft Performance, Aircraft Stability and Control.

INTENDED AUDIENCE : PHD, M.Tech & B.Tech
INDUSTRIES APPLICABLE TO : NAL Bangalore, ARDE Pune, ADE Bangalore, ADA Bangalore

COURSE OUTLINE :
This course is designed to conduct experiments in airplane to determine different parameters. This course will also help in creating a background to design an experiment to determine a specific parameter.

ABOUT INSTRUCTOR :
Prof. A.K. Ghosh is a faculty of Aerospace Engg. Department of IIT Kanpur. He is also the in-charge of the flight laboratory and unmanned aerial vehicle of IIT Kanpur. His research areas include system identification through flight tests using conventional and neural network based methods, design of aircrafts and airborne projectiles, supercavitation, unmanned aerial systems. Before joining IIT Kanpur, he worked as a scientist with Defense Research Development Organization (DRDO). He has published many peer reviewed journal papers and conference papers, guided 13 doctoral students, and 38 masters students. He is also a mentor of multiple aerospace start-up companies, and also been associated with major industry contributions of high speed low drag aircraft bomb, Pinaka Mk-I, 105mm sabot round for tracked vehicles, etc.

COURSE PLAN :
Week 1: Planning of Experiment Weighment of Aircraft Cruise Flight Cruise Experiment
Week 2: Cruise Experiment Climbing Flight Neutral Point(stick fixed)
Week 3: Neutral Point Experiment Maneuvering Point (stick fixed) Maneuvering Point Experiment
Week 4: Lateral Stability and Control Lateral-Stability and Control Experiments
Week 5: Directional Stability and Control Directional Stability and Control Experiments