INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
PROFORMA FOR NEW COURSE

1.	Title of the Course	Multivariable Feedback Control
2.	Course Number	EE5026
3.	Status of the Course	Elective
4.	Structure of Credits	3-0-0-3
5.	Offered To	PG
6.	New Course/Modification to	New
7.	To be Offered by	Dr. PS Sai Krishna
8.	To take effect from	January 2019
9.	Prerequisite	Control Engineering (EE3004)
10.	Whether approved by the Department	Yes
11.	**Course Objective:** This course deals with the design and analysis of Multivariable control systems in a linear setting. This course introduces frequency domain method and discusses the controllability and limitations of control in real scenarios. It also brings in simulation aspects in designing control systems.	
12.	**Course Content:** Classical frequency domain methods; Analysis of directions in multivariable systems using singular value decomposition; Input output controllability; Inherent control limitations in the plant; Model uncertainty and robustness; Performance requirements; Methods for controller design and model reduction; Control structure selection and decentralized control; Practical examples and simulations in Matlab/LabView.	
13.	Text book(s): 1. Sigurd Skogestad, Ian Postlethwaite, *Multivariable feedback control analysis and design*, John Wiley and Sons, (2005).	
14.	Reference(s): 1. Joao P Hespanha, *Linear Systems Theory*, Princeton University Press, (2018).	