

**INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
PROFORMA FOR NEW COURSE**

1.	Title of the Course	Hydroinformatics Laboratory
2.	Course Number	CE5191
3.	Status of the Course	Core
4.	Structure of Credits	0-0-3-2
5.	Offered To	PG
6.	New Course/Modification to	New
7.	To be Offered by	Department of Civil Engineering
8.	To take effect from	July 2019
9.	Prerequisite	Nil
10.	Whether approved by the Department	Yes
11.	Course Objective: This course will provide hands-on opportunity to work with hydro-systems simulation models using example datasets from real-world problems. The student will learn basics of machine learning techniques and its application in water resources and environmental engineering problems	
12.	Course Content: Hydro-systems: Watershed Simulation, Reservoir operation, Design of water distribution system, Water surface profile computation, Storm drainage design, Groundwater flow simulation, Watershed delineation, Land-use classification; Machine Learning Techniques: Flood forecasting, water and air quality modelling.	
13.	Text book(s): 1. Mays L W, <i>Water Resources Engineering</i> , Wiley (2010).	
14.	Reference(s): 1. Stefano Marsili-Libelli, <i>Environmental Systems Analysis with MATLAB</i> , CRC Press (2005).	