CVL851 Special Topics in Transportation

Spring 2023

Instructor

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Class

Name	Special topics in transportation
Class Fun Name	I like the way you (we) MOVE :) like the song
Code	CVL851
Days	Tuesday, Friday
Time	2:00PM to 3:30PM
Office Hours	3:30PM to 5:00PM

Syllabus

Module 1	Mathematical Tools	Fundamentals of analysis, (Ordinary Differential Equations) ODE, (Partial Differential Equations) PDE, stochastic ODE/PDE, statistics, ML/AI
Module 2	Traffic Modeling	Microscopic, mesoscopic, and macroscopic (ODE, Statistical Mechanics, PDE)
Module 3	Numerics and Simulation	Numerical techniques and software simulation development (Python, Javascript animation in Html5)
Module 4	Hardware Experiments	Microcontroller development and programming (Arduino board with sensors and actuators interfacing, and algorithm programming)

Grading

Tests	Muliple	50%
Projects	Two	30%
Final Exam	One	20%