EZPZ Tutoring Service: Fall Curriculum

Week	Date	Lecture	Lab	Due	Project Deadlines
1	September 13th	Introduction to Robotic Systems	Actuate motor speed relative to light.		
2	September 20th	Signals and Interface	Use of oscilloscopes and multimeter to understand signals.	Homework 1	
3	September 27th	University of Waterloo Visit	Visit faculty of Engineering and Robotics Team.		
4	October 4th	Components of a Robotic Syste	Construct block diagram of term project.	Homework 2	Block diagrams
5	Octboer 11th	Computer Aided Drawings (CAD)	Construct a CAD of your laptop.	Homework 3	
6	October 18th	Mechanical Design	Compute CoG, motor load, and max incline of term project.	Homework 4	
7	October 25th	Mechanical Design Cont.	Assemble term project’s chassis and drivetrain.	Homework 5	Chassis assembled
8	November 1st	Actuators	Program actuators for a specific task.	Homework 6	
9	November 8th	Power Source	Compute power budget for term project.	Homework 7	
10	November 15th	Intro to Circuits	Build LED network, H-bridge.	Homework 8	
11	November 22nd	Sensors	Evaluate and mount sensors to term project.	Homework 9	All wiring
12	November 29th	Embedded Software	Robust line detection with filters and interrupts.	Homework 10	Line detection
13	December 6th	Digital Logic	Build logic network to solve a puzzle.	Homework 11	
14	December 13th	Microcontroller and IC	Arcuino with 555 Timer.	Homework 12	
15	December 20th	Control Loop	Draw the control loop for your term project.	Homework 13	
16	December 27th	Christmas Break			
17	January 3rd	Encoders	Program omniwheels to move robot in any direction.	Homework 14	Open loop drive
18	January 11th	Inertial Measurement Unit (IMU)	Code robot to follow a line.	Homework 15	Closed loop drive
19	January 18th	Course Overview	Workday for the term project.	Homework 16	
20	January 25th	Advanced Topics in Robotics	Demo for the term project and hack challenge.		Demo day