PHYSICAL COMPUTING - SYLLABUS & POLICIES

Textbook: We will not use a textbook for the course; however I will provide handouts when needed.

Grading: Quarterly grades will be given based on the following rubric:

Projects **[40%]** - the Physical Computing course is largely a project-based course. That is, the goal is to take the knowledge we learn and apply it to building different prototypes that can be used in different contexts. We will attempt to work through a good number of projects, and the successful completion of these projects will determine a large portion of the grade for the course. Each project will be graded with its own rubric.

Homework **[30%]** - I will (typically) assign homework every week, and will announce the due date when I hand out the assignment. I will collect homework and will both check for completion and choose some problems to grade for accuracy. Late homework will not be accepted unless you are legally absent. It is in your best interest make a serious attempt at every problem, and you are encouraged to come and see me during office hours to go over other problems from the homework which are not checked or discussed in class.

Quizzes **[30%]** - there will be a few quizzes throughout the semester to test your understanding of the material as well as to show you some applications of what we are learning in class. All quizzes will be announced in advance.

Tips: Here are some suggested best practices that will help you succeed during the course:

Notes I will typically hand out a sheet at the start of class with a warm-up problem and some other content which will give structure to the lecture. When you come to class, you should begin working on the "Do Now" problem if there is one. I suggest you keep a 2-section binder with looseleaf paper in it. In the first section, you should take notes and collect the class-sheets. In the second section, you should keep homework assignments. Be sure to keep your work legible and organized.

Help I will hold office hours on Tuesday and Friday mornings from 7:30am-8am in Room 218. I will also hold office hours during

periods which you can find posted on my page at the Scarsdale Schools Website. I strongly encourage you to come to office hours regularly to go over class notes or homework problems.

Class Please turn OFF your cell phones, tablets and other devices when you enter the classroom. Bring your binder, writing utensils and your calculator. Being on time and prepared will go a long way towards making the class more engaging for you. Participate as much as you can by asking and answering questions, working on the Do Now or other problems we go over in class, and coming to Office Hours. I will rely on you to help each other as we work through projects. Keep a lookout for classmates and see where you can help them to get their projects accomplished.

Contact If you have a question or concern, please come and see me in person. You can find me either in my office (Rm. 218) or in the Design Lab when I am not teaching. Though my preference is to speak with you in person, I understand that this can't always happen. The next best way to get in touch with me is to send me an email at mkumaresan@scarsdaleschools.org. I will respond to you as soon as I can, but please be patient if you don't hear from me right away.

Cheating Academic dishonesty is wrong and can get you in serious trouble. It is unfair to you and your classmates and destroys trust between the student and teacher. I consider any of the following cheating: copying from someone on a quiz/homework; getting or giving information about a test or quiz from or to someone else; using your calculator (or any device) when you are instructed not to; bringing in information/sheets that is not permitted; plagiarizing work in a report. Cheating demonstrates a lack of integrity and character and will not be tolerated. The consequences for any of these actions will include a zero for the assignment and disciplinary action by the school administration. I encourage you to work together on homework (but not to copy each other) and to study together for quizzes. If you see someone cheating, let them know it is wrong and help them to contact a dean, teacher or parent who can help.

Curriculum: We will cover the following topics this semester:

Electricity Ohm's Law, Power, & Energy, Kirchoff's Laws, Resistor Circuits, Breadboarding

Coding Variables, Loops and Control Flow, Functions, Arrays

Projects LEDs, Sensors, LCD Displays, Motors