Subject: Introducing a New Course- Computer Science:

This is the first year course in computer science. Introduction to Computer Science is designed to introduce students to the breadth of the field of computer science. Rather than focusing the entire course on learning particular software tools or programming languages, the course is designed to focus on the conceptual ideas of computing. The goal of Introduction to Computer Science is to develop computational thinking practices of algorithm development, problem solving and programming within the context of problems that are relevant to the lives of today's students. Students will also be introduced to topics such as interface design, limits of computers and societal and ethical issues.

ICS is divided into 6 units:

1. Computer Hardware, History of Computers and Human Computer Interaction: we will disassemble a system unit (computer) completely and learn about the different components inside the computer such as the memory, CPU, heat sink, power supply, hard drives, video cards, etc. Also, we will explore the history of computers and the societal impact of computers (especially, issues related to privacy).

2. Problem Solving: We'll explore the 4 principals of problem solving and look at specific examples of problem solving with regards to computer science.

3. Web Design: Students will learn the fundamentals of web design/development. At the end of the unit, students will create their own website as their final project using HTML, CSS and JavaScript.

4. Introduction to Programming: Students will learn the fundamentals of programming in a GUI based environment using Scratch (free software developed by MIT to teach their students fundamentals of programming).

5. Computer Applications: This unit explores Python programming language to further student's understanding of programming concepts. Students will create programs and applications using Python.

6. Robotics: Students will create robots using LEGO MindStorm NXT kits. They will also program these robots to do certain tasks such as traversing a maze.