

AC_ComputerLab:

Youth Computer Lab: Raspberry Pi with Python/Scratch

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In this newly developed youth computer class, we will use the Raspberry Pi micro-computer and the Python/Scratch programming capabilities that come with it to learn and practice computer hardware and software knowledge. We will work through a series of real-world projects such as a traffic light control, smart home, Internet of Things (IoT) and robotics. These hands-on projects will give you sound understanding on computer/network systems, computer interaction with external devices (Physical Computing), programming logic design and best coding practices. This course will be instructed by engineer(s) with rich experience in IT industry, and every student will get challenged to his/her corresponding skill or knowledge level. Parents are welcome to get involved in the class, and do fun projects with kids. Upon completion of the course, students may obtain an increased amount of knowledge/skills that can be used for Science Olympiad and/or other activities at their daily public schools, and also gain background for studying more advanced computer science/engineering subjects down the road.

这是RACL 新开的适合广大中小学生的计算机系列课程中的、以Science Olympiad 为背景的一门课外活动课。本课程使用 Scratch 及 Python 在 Raspberry Pi 微计算机上学习和练习计算机硬件和软件编程知识。课程将通过一系列与现实生活密切相关的实验项目如交通灯控制、智能家居等，让学生对计算机硬件系统、与外部的交互、程序逻辑设计等有较为全面的接触和了解。本课将由RTP 地区几位专业的软、硬件工程师联合执教，将根据每个学生的能力给予相应的、具有挑战性的指导。该门课目的是想寓教于学，锻炼孩子的软件编程的逻辑思维、硬件操作的动手能力以及项目合作的团队精神。本课程鼓励而且也适合家长参与，与孩子一起学习。经过这门课的学习，学生将积累到参加公立学校系统的 Science Olympiad 需要的很多知识、技能，也会为将来学习更高级的软硬件课程打下比较好的基础。

***** 为保证课程质量及器材设备的限制，注册名额将控制在十个，先注先得。**