

McGraw Central School
Technology Education Department
Introduction to Computer Science Course Syllabus

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Course Description:

This introductory course will cover the basic elementary concepts in Computer Science by offering engaging problems for students to solve through writing computer code. The problems will be simple at first, and grow in complexity as students gain mastery of the concepts. Python is a simple, high-level language, and will serve as a solid starting point for this course. This course will also explore some basic programming in C+. Students will be using a Unix-based computer called a Raspberry pi, for which they will be responsible for during the course.

Course Goals:

- Use the different variable types correctly to execute tasks
- Write functions to solve problems and complete tasks
- Write functions with proper style
- Navigate through files and directories from the command line
- Execute and edit programs from the command line
- Properly incorporate logic and Booleans into programs
- Correctly use modules with proper style
- Create proper Graphic User Interfaces for original applications
- Make functional and entertaining games.
- Use file-sharing tools common to programmers
- Use common programming resources properly

Classroom Rules:

- Be respectful of each other
- Be respectful of the equipment
- Be ready to learn

Course materials:

- A Raspberry pi and peripherals will be supplied. Take good care of it!
- A binder for handouts and worksheets is strongly recommended
- Paper for note-taking is also recommended.

Attendance Policy / Lateness / Late Work:

- In order to do most of the work for this course, you must be in class. Therefore attendance is critical. Excessive absence will result in a significantly lower grade, unless excused, and other arrangements have been made.
- The policy for tardiness for this course is school policy: after three unexcused tardies, an after school detention will be assigned.
- Late projects will be accepted, but points will be deducted, depending on the circumstances.

Special Needs:

Accommodations for testing or other academic assistance will be provided for students requiring these services.

Topics:

- Data types
- Operations
- Parts of a program
- Functions
- Conditionals and loops
- Modules/libraries
- Lists
- Guis, Tkinter and Pygame
- Moving things