**One Session Overview to Programming Using Python**

We provide an overview of computer programming.  This is a one session overview. The student needs no prior computer programming experience.  Basic computer experience is assumed.  The popular Python programming language is used as an example.  Included in this session are a number of simple but realistic examples in Python which the student views, runs, modifies and runs again.  This session emphasizes student participation - **learn by doing**.  During this session the student is shown IDLE, a simple but powerful Python programming development tool.

Programming areas demonstrated in this session include the following:

* **Programming concepts:**
  + **program** - telling the computer what to do
  + **program file** – store a program
  + **programming language** – rules for the telling
* **Python parts:**
  + **program structure / layout:**comments, indentation, import
  + **calculation / comparisons**: +, -, \*,  \*\*, /, //, %, (), +=, \*=
  + **variables –** named places to store stuff
  + **control flow**:
    - **if**, **else**
    - loops: **while**, **for**
* **Data Organization**
  + Lists
  + Dictionaries / Structures
* **Functional Grouping:** **Functions**
* **Data + Control:** – **Classes** / **Objects**