# Application Coding for your Daily Needs

## Syllabus.

**Introduction**

By taking this class, you will learn the fundamentals behind basic programming design and how to integrate external libraries (found on the Internet) into your own code. By the end of this class, you will be comfortable with (1) finding external libraries, (2) integrating those libraries into your own code, and (3) implementing the libraries according to their documentations. By using such libraries, applications become dramatically simple to create, and you will be able to create programs that are *useful* and *relevant* to your daily needs and interests.

**Schedule**

Class : 7/10     - Introduction to Python
- Introduction to IDLE
- Basic Operations and Expressions
- Assignments and Variables
- Data Types (Primitives, Collections)
- Functions
- Conditionals
- Loops
- Exception Handling

Class : 7/17     - Introduction to Python II
- Classes and Instances
- Code Organization
- Hands-on Examples
- Debugging

Class : 7/24     - Introduction to Libraries
- How to Find Libraries
- How to Download and Install Libraries
- API and Documentation
- Hands-on with Libraries

Class : 7/31     - Introduction to Libraries II
- More Library Integration Examples
- Hands-On with External Libraries
- Further Discussion about Libraries

Class : 8/7      - Hands-on Work with Libraries
- Learning to integrate libraries Hands-on
- Honing Python and Library Skills

Class : 8/14    - Final Project Workshop
- All Class dedicated to working on final project

Class : 8/21     - Final Project Presentations

- Students give 5-minute presentation on their final projects

## Materials

All materials for this class are accessible via the Internet and free. We will use this material both during class and as optional projects for students to work on outside of class.

- Learning Python the Hard Way  - http://learnpythonthehardway.org/
- Think Python - http://www.greenteapress.com/thinkpython/thinkpython.html
- Python Documentation - http://www.python.org/doc/

## Homework

Homework for this class will be optional, however, it is highly encouraged. In order to get the most out of this class, it is essential to understand the concepts underlying the homework problems. Homework assignments will be either given out at the end of class or will be available online.

## Final Project

Every student is expected to complete some form of final project by the end of the class. The final project involves integrating an external library with a project completed by the student. All projects must be first approved by the instructors of the class. Presentations will happen during the last class and will last approximately 5 minutes long with a an additional question-answer period at the end.