1. Pre-req: (1) Fundamental knowledge of programming, (2) Ability to install Python & Tkinter. You do not need to know Python.

2. Software Engineering
   - Requirements: scripting & story boards
   - Software Process: Development Models
   - XML: SAX & DOM
   - UML: Class diagrams, Sequence diagrams State diagrams
   - Design Patterns: Singleton, Composite, Visitor, MVC, Observer, . . . .
   - Testing: system; classes: unittest
   - Verification and Validation: Resolve

3. Python Programming
   - Interpreter: dir, help,
   - Basics: numbers, boolean, variables/identifiers, global, strings, negative indices, if, while, range, lists, len, list comprehension, shallow/deep copy, tuples, for, dictionaries, switch, set, file I/O, gzip, regular expressions
   - scripts: os, sys, os.path, shutil, try not to use system.
   - Program modules, module name, "_main_", "_init_.py"
   - Functions: lambda functions, parameter transmission, args,
   - classes: constructors, public/private, overloaded operators, overloading print, class variables (static)
   - inheritance, object, overriding, no overloading
   - XML: SAX, DOM

4. GUI Programming: Tkinter
   - Widgets: Label, Button, callbacks, widget resizing, binding events, multiple widgets, configuring widget appearance, standard dialogs, message and entry; Checkbutton, RadioButton, and Scale (slider); Images.
   - Geometry layout: packer, packing order, side attachments, expand, fill, stretch, anchor, container classes; grid
   - Tk widgets, Frames, and Toplevel

5. Programming Projects
   - Write a script
   - Add a gui to script
   - Specs for your project
   - Development phases for project.
   - Deploy project

6. Pygame Concepts (optional)
   - Drawing a surface, blitting, colorkeys and transparency, text
   - Sprite animation
   - Collisions & explosions
   - Processing input: mouse, keyboard
   - Adding levels
   - Adding sound
   - Game time and timers