Chapter 7: Students should be able to:

- ☐ (O1) Create a Python list (array) with proper, valid elements inside.
- ☐ (O2) Concatenate, remove entries, index, slice, and loop over lists.
- ☐ (O3) Create lists compactly using the list comprehension syntax.
- ☐ (O4) Open a text file to be read and looped over, performing desired operations.
- ☐ (O5) Open a text file to be written and add desired content.
- ☐ (O6) Utilize a try-except statement to make it possible for a program to smoothly handle an exception or error condition.
- ☐ (O7) Create multi-dimensional arrays and access specific elements within a multi-dimensional array.
- ☐ (O8) Use PGL's `GImage` class and associated methods to convert images to multi-dimensional arrays of pixel values.
- ☐ (O9) Manipulate the colors of pixels of a `GImage`.

Chapter 8: Students should be able to:

- ☐ (O10) Write a function that utilizes an algorithm that runs in $\mathcal{O}(N)$ time.
- ☐ (O11) Write a function that utilizes an algorithm that runs in $\mathcal{O}(N \log N)$ time.

Chapter 9: Students should be able to:

- ☐ (O12) Create a new class from scratch with an appropriate constructor that defines new attributes for the class.
- ☐ (O13) Write getter and setter methods to retrieve or manipulate class attributes.
- ☐ (O14) Define a method so that instances of the class are printed nicely to the screen.
- ☐ (O15) Create objects which are instances of a custom defined class.
- ☐ (O16) Use receiver syntax to call class methods on an instance.

Chapter 10: Students should be able to:

- ☐ (O17) Create a subclass, with appropriate syntax and constructor, to inherit all the methods and attributes of a custom parent class.
- ☐ (O18) Extend an existing class (like `GCompound` or `GPolygon`, though not limited to those) to extend or improve functionality.

Chapter 11: Students should be able to:

- ☐ (O19) Add, remove, or change key/value pairs in an existing dictionary.
- ☐ (O20) Access or lookup values corresponding to different keys in a dictionary.
- ☐ (O21) Iterate through a dictionary.
- ☐ (O22) Create a Python set object with a non-zero number of valid elements.
- ☐ (O23) Utilize built-in methods for set objects to compare or check membership.

Chapter 12: Students should be able to:

- ☐ (O24) Utilize a data structure to make a program or piece of a program data-driven, wherein the provided data structure dictates the flow of the program.
- ☐ (O25) Convert a data structure from an *external format* as it is written in some text file to an *internal format* using some hierachical combination of custom objects or built-in objects.