

Supplemental Table 3. Informatics for Pathology Practice and Research 2 Course Architecture.

Module #	Module Objectives	Assessment	Course Objective #
1	Recognize basic concepts behind computer programming in the context of Python	Pre-Class Quiz	1,2,4,5
1	Create a basic Python program in a Jupyter console	Pre-Class Quiz*, Exercises	1,2,3,5
2	Create and utilize data structures for storing, modifying and performing valid operations on stored data	Pre-Class Quiz*, Exercises	1,2,3,5
3	Apply and create conditional statements and iteration loops	Pre-Class Quiz*, Exercises	1,2,3,5
4	Read and write from files using python programming	Pre-Class Quiz*, Exercises	1,2,3,4,5
4	Perform common operations on files	Pre-Class Quiz*, Exercises	1,2,3
4	Resolve except statements that may occur in a python program	Pre-Class Quiz*, Exercises	1,2,3,4
5	Create programs to automate manual steps	Pre-Class Quiz*, Exercises	1,2,3,5
5	Solve a large problem through dissection into smaller programming components that integrate together as a project	Pre-Class Quiz*, Exercises	1,2,3,5
1-5	Evaluate Python programming for effectiveness and efficiency	Peer Review	1,2,4,5

*Pre-class Quizzes were used as assessment scaffolding to check knowledge and comprehension of commands prior to higher-order Exercises.