Computing: Little Bits to Big Ideas
OLLI class Spring 2020

Instructor: Lenny Pitt (lennypitt@gmail.com)
Class website: http://tinyurl.com/olli-computing

Wed Jan 29
Introduction & brief overview. Data: numbers, text, images, and their representation; data compression

Wed Feb 5
Sound representation
Computers from the ground up: Logic gates, circuits, machines, stored-program computer
From machine code through programming languages

Wed Feb 12
Algorithms. What is an algorithm? What is a program? Adding to 10. Stable Marriage. Sorting. Binary Search.

Wed Feb 19
Graphs and their uses. Graph algorithms Minimum Spanning Tree, Breadth-First Search, Dijkstra's shortest path algorithm.

Wed Feb 26
 Limitations of Computing: Hardware limits. Software complexity. Computational Complexity. Uncomputability

Wed Mar 4,   Wed Mar 11, and Wed Mar 18
Miscellaneous topics. Artificial neural nets and deep learning. Markov chains. Expert Systems. Stencil computations and Simulation. Genetic algorithms. Quantum computing.