6.00x Fall 2012 Course-at-a-Glance

Note: All stated times are in EST, the time zone for Boston, MA, USA.
You can convert times to your local time zone here:
http://www.timeanddate.com/worldclock/converter.html

Wk	Topics		Key Dates
1	Computational thinking, core elements of programs, objects, expressions, operators, abstraction, strings, scripts, straightline & branching programs.		**Mon, Oct 1** Week 1 videos, Pset 1 released. Week 2 videos & Pset 2 released a week early.
2	Iteration, exhaustive enumeration, guess & check, for & while loops, bisection search, Newton-Raphson, function syntax and scoping, specifications, modules		**Mon, Oct 8:** Start of Week 2. Nothing new released.
3	Recursion, inductive reasoning, divide & conquer, objects: tuples, lists, dictionaries; structure types and mutability, functions as objects		**Mon, Oct 15, 10 PM EST:** **Pset 2 Due.** **Mon, Oct 15:** Week 3, Pset 3 out.
4	Debugging. Black box, glass box, integration and unit testing. Efficiency and orders of growth, complexity, asymptotic notation.		**Mon, Oct 22, 10 PM EST:** **Pset 3 Due.** **Mon Oct 22:** Week 4, Pset 4 out.
5	Memory storage. Search and sort methods. Hashing.		**Mon, Oct 29, 10 PM EST:** **Pset 4 Due.** **Mon Oct 29:** Week 5, Pset 5 out.
November 1-4: **Midterm Exam #1** **Plan to take in one 3-hour block. Covers lectures 1 – 9.**			
6	Defining classes, classes versus instances, methods, bindings of values, exceptions. Object-oriented programming. Inheritance, iterators, debugging.		**Wed Nov 7, 10 PM EST:** **Pset 5 Due.** **Mon Nov 5:** Week 6, Pset 6 out.
7	Plotting techniques. Simulations and random walks, stochastic programs, probability, variations on random walks.		**Mon Nov 12, 10 PM EST:** **Pset 6 Due.** **Mon Nov 12:** Week 7, Pset 7 out.
8	Monte Carlo methods and simulations, Inferential statistics.		**Mon Nov 19:** Week 8 out.
9	Statistics, histograms, statistical measures. Using randomness to solve non-random problems, distributions.		**Mon Nov 26, 10 PM EST:** **Pset 7 Due.** **Wed Nov 28:** Week 9, Pset 8 out.
10	Curve fitting. Understanding data, coefficient of determination.		**Wed Dec 5:** Week 10 out.
December 6 – 9: **Midterm Exam #2** **Plan to take in one 3-hour block. Covers lectures 1 – 17.**			
11	Optimization problems. Knapsack problem. Graph search – breadth first and depth first search. Shortest path.		**Wed Dec 12, 10 PM EST:** **Pset 8 Due.** **Wed Dec 12:** Week 11, Pset 9 out.
12	More graphs. Cliques. Min-cut. Dynamic programming.		**Wed Dec 19, 10 PM EST:** **Pset 9 Due.** **Wed Dec 19:** Week 12, Pset 10 out.
13	Statistical fallacies. Queuing networks, Poisson distributions		**Wed Jan 2, 10 PM EST:** **Pset 10 Due.** **Wed Jan 2:** Week 13 out.
14	Wrap up lecture!		**Mon Jan 7:** Week 14 out.
January 10 – 14: **Final Exam** **Plan to take in one 3-hour block. Covers lectures 1 – 24.**			