**Gold Syllabus**

1. Graphs 1

* Representation
* Cycle Detection
* Topological Sort
* Euler Path

1. Graphs 2

* Shortest Paths(Dijkstra, Bellman-Ford, Floyd Warshall)

1. Graphs 3

* Union Find
* Minimum Spanning Tree (Kruskal, Prim?)

1. DP 1

* Basics and classic examples (knapsack, LIS, etc)

1. DP 2

* DP on tree/DAG
* Digit DP
* Games

1. DP 3

* Bitmask DP

1. Random Stuff

* Binary/Ternary Search on answer
* Merging Sets

1. Geometry

* Line Segment Intersection
* Point in Polygon
* Sweep Line
* Convex Hull

1. Strings

* Hashing
* Miller-Rabin
* KMP?
* Z algorithm

1. Data Structures 1

* Prefix Sums
* Fenwick Tree
* Segment Tree

1. Data Structures 2

* Lazy Propagation
* 2-D Segment Tree

1. Data Structures 3

* Binary lifting and Sparse Table
* Square Root Decomposition and Mo’s Algorithm
* Lowest Common Ancestor

**Plat Syllabus**

1. More Data Structures

* Range Tree
* AVL Tree

1. Queries on Tree

* Subtree Queries
* Heavy Light Decomposition

1. Queries on Tree 2

* Centroid Decomposition

1. Advanced Graph Algorithms

* Articulation Points and Bridges
* Strongly Connected Components (Tarjan)

1. Advanced Graph Algorithms 2

* Flow
* Min-Cost Max Flow
* Bipartite Matching

1. Suffix Array
2. Number Theory, harder DP
3. DP optimizations
4. DP optimizations 2
5. Less common techniques that don’t have a name