

No.	Topics	Workshop	Pre-Class Reading	Lab	Pre-Lab	Assignment
1	Introduction	House building	Software Failure in Thailand	PSP0	Defect Type Standard	
2	Process	Origami Process	Software Development Activities	PSP0	Cost of quality	
3	Conceptual Design	Building a dream house	Context-Driven Development	PSP0.1	Software Size Measurement	
4	Estimation	Guessing content	Wideband Delphi, Fuzzy Logic, PROBE	PSP0.1	Software Complexity	
5	Requirements	20 questions game	Software Requirements	PSP1	Normal Distribution	
6	Acceptance Test	Normal/Abnormal	Testing	PSP1	Linear Regression	Test Case
7	Software Testing	Pingpong game	Sampling Technique	PSP1.1	Multiple Regression	
8	Midterm					
9	Planning	Planning Cards & Calendar	PBS, WBS	PSP1.1	Planning Template	Senior Project Plan
10	Monitoring and Control	5 four-minutes workshop	Earned-Value, Burn-down	PSP1.1	Tracking Template	Analyze defects
11	Quality Management	AF Game	Quality Metrics, Reviewing Techniques	PSP2	Code Review Checklist	
12	Documenting Design	Design Interpretation	UML, DFD & ER, 4 + 1 View	PSP2	Design Review Checklist I	
13	Design Techniques	ADD Workshop	5 Decomposition Techniques	PSP2.1	Design Review Checklist II	
14	Design Verification I	The Star Game	Formal Verification I	PSP2.1	Symbolic Execution & Trace Table	
15	Design Verification II	Star Tek Game	Formal Verification II	PSP2.1	Loop verification	
16	Conclusion					
17	Final					

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1	Pre-condition/Post-condition, Invariant	Basic Searching & Sorting, New World Puzzle	Propositional Logic and First-Order Logic	Searching data	PSP0	
2	Complexity Analysis	Selection Sort, Quick Sort, Merge Sort	Complexity Analysis, Algorithm Visualization	Selection nth data from file	PSP0	
3	Bruce Force	Bubble Sort, Cryptarithm	Bruce Force and Exhaustive	Sorting data I	PSP0.1	
4	Divide and Conquer	Random Search, Binary Search	Divide and Conquer	Sorting data II	PSP0.1	
5	Decrease and Conquer	Insertion Sort	Decreases and Conquer	Sorting data III	PSP1	
6	Instance simplification	Hashing	Instance simplification	Hashing	PSP1	
7	Representation change & Problem reduction	Huffman Code	Huffman Code	Anagram detection	PSP 1.1	
8	Midterm					
9	Space-time trade off	Optimal Binary Search, B-Tree	Thread & Concurrency	Parallel Prog I	PSP1.1	
10	Dynamic programming	Longest Common Subsequence	Race Condition	Parallel Prog II	PSP1.1	
11	Greedy algorithm	Shortest Path Algorithm	Dead lock	Parallel Prog III	PSP2	
12	Iterative improvement	Dining Problem	Linear Programming	Simplex	PSP2	
13	Backtracking	8 Queen Problem	Recursion	Knight tour	PSP2.1	
14	Branch and Bound	Traveling Salesman Problem 1	Assignment Problem	Knapsack Problem	PSP2.1	
15	Approximation algorithm	Traveling Salesman Problem 2	Population Counting	Simulated Annealing	PSP2.1	
16	P & NP problems	Decision Tree	Traveling Salesman Problem	Traveling Salesman Problem		
17	Final					