

Course Syllabus

Course Number	2143203
Course Name	Fundamental Data Structure and Algorithm
Credits	3
Department	Information and Communication Engineering
Semester	1 st of 2 nd year
Year	2009
Instructors	Section 2 Vishnu Kotrajaras, Ph.D. (vishnu@cp.eng.chula.ac.th) Section 1 Prabhas Chongstitvatana, Ph.D. (prabhas@chula.ac.th)
Pre-requisite	None
Level	Undergraduate
Hours/Week(Lecture)	3
Schedule	Section 2 Friday 13.00-16.00: 2304/1 Section 1 Wednesday 13.00-14.30: 2304/2 Friday 13.00-14.30: 2304/2

Topics

Introduction to Analysis of Algorithms, Asymptotic notations, List, Stack, Queue, Tree, Heap, Hash Table, , Divide and Conquer examples in data structure

Schedule

Week	
1	Introduction to the analysis of algorithms
2	Asymptotic Notation (no class on Wednesday)
3	List
4	Stack
5	Queue
6	Trees and Binary Search Trees
7	AVL trees
8	Midterm examination
9	Hash
10	Heap (1)
11	Heap(2) (no class on Friday)
12	Heap (2)
13	Sorting (1)
14	Sorting (2)
15	Summary and Revision
16	Summary and Revision

Grading

- Midterm Exam 40%
- Final Exam 40%
- Homework 20%
 - For homework, there will be 4 assessed course works, each worth 5%.

Policy

- Copying other students' work is strongly prohibited. The staffs take this matter seriously.

Required Reading

- Class notes.
- *Data Structure and Algorithm Analysis in Java* (2nd Edition), Mark Allen Weiss, Addison-Wesley, 2006

Optional Reading

- *Introduction to Algorithm* 2nd edition, T.Cormen, C. Leiserson, R. Rivest, C.Stein, MIT Press & McGraw-Hill, 2001
- *Data Structure: VAJA-JAVA edition*, Somchai Prasitjutrakul, Chulalongkorn Press, 2007 (Thai)