Ton Duc Thang University
Faculty of Information Technology

DATA STRUCTURES AND ALGORITHMS (504008)

INTRODUCTION

Course Description

- Module's name:

  DATA STRUCTURES AND ALGORITHMS

- Code: 504008
- Credits: 4 (3.1)
- Prerequisite: Object oriented programming

Syllabus Outline

- Linked list
- Stack and Queue
- Analysis of Algorithm
- Sorting
- Hashing
- Binary search tree
- AVL
- Priority queue – Binary Max Heap
- Graph basic
- Graph traversing
- Minimum spanning tree
- Shortest way

Textbooks

1. Janet J. Prichard, Frank M. Carrano, [2010], Data Abstraction and Problem Solving with JAVA: Walls & Mirrors, 3rd Edition, Pearson Education, New Jersey.
2. Michael T. Goodrich, Roberto Tamassia, Michael H. Goldwasser, [2014], Data Structures and Algorithms in Java, 6th Edition, Wiley.
3. Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein, [2009], Introduction to Algorithms, 3rd Edition, MIT Press.
4. Robert Lafore, [2002], Data Structures and Algorithms in Java, 2nd Edition, Sams Publishing.
5. Robert Sedgewick, Kevin Wayne, [2011], Algorithms, 4th Edition, Addison-Wesley Professional.

Course Materials

- You can find all lectures, tutorials, and solutions on Sakai:

http://sakai.it.tdt.edu.vn

Assessment

- 10% - Theory
- 20% - Midterm test – Practice
- 20% - Exercises + Assignments
- 50% - Final exam – trên giấy

Q & A