Ton Duc Thang University
Faculty of Information Technology

DATA STRUCTURES AND ALGORITHMS I (501043)

INTRODUCTION

Course Description

- Module's name:

    DATA STRUCTURES AND ALGORITHMS I

- Code: 501043

- Credits: 4 (3.1)

- Prerequisite: Programming Methodology (501042)

Syllabus Outline

- Introduction to Java
- OOP Part1: User Mode
- OOP Part 2: Designer Mode
- Collection of Data
- Inheritance
- Exceptions
- Abstract Data Type – ADT

- List ATD & Linked Lists
- Stack and Queue
- Recursion
- Analysis of Algorithm
- Sorting
- Hashing

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% - Exercises
- 20% - Midterm test
- 20% - Assignments
- 50% - Final exam

Q & A

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