

National Taipei University of Technology

The Gambia IT Elite Program

Data Structures

Spring 2009

General

- **Time/Room:** Fri :14:10-17:00 @ Room 224 in the 6th Teaching Building
- **Instructor:**

Chuan-Ming Liu

Office: 1530 Technology Building

Office Hours: Mon: 11:10-12:00, 13:10-14:00 and Thu10:10 - 12:00, OR by appointment.

Email: cmliu@csie.ntut.edu.tw

Phone: 02-2771-2171 ext. 4251

- **TA:**

Bill In-Chi Su

Office: 1226 Technology Building

Office Hours: Tue: 10:10-12:00 and Wed: 10:10-12:00

Email: billandcs@gmail.com

Phone: 02-2771-2171 ext. 4262

Topics

This course is mainly aimed at introducing the data structures commonly used in programming languages. Topics include:

- Introduction and Recursion
- Analysis Tools
- Arrays
- Stacks
- Queues
- Linked Lists
- Sorting
- Hashing
- Trees
- Priority Queues
- Search Trees
- Graphs

Material

- **Textbook:**

Ellis Horowitz, Sartaj Sahni, and Susan Anderson-Frees, Fundamentals of Data Structures in C, 2nd edition, Silicon Press, 2008. ISBN:0-929306-40-6

- **References:**

1. Michael T. Goodrich and Roberto Tamassia, *Data Structures and Algorithms in JAVA*, 4th edition, John Wiley & Sons, 2006. ISBN: 0-471-73884-0.
2. Sartaj Sahni, *Data Structures, Algorithms, and Applications in JAVA*, 2nd edition, Silicon Press, 2005. ISBN: 0-929306-33-3.
3. Frank M. Carranno and Walter Savitch, *Data Structures and Abstractions with Java*, Prentice Hall, 2003. ISBN: 0-13-017489-0.

- **Lecture notes:** Available online

Course Work

- Assignments (50%): 6-8 homework sets
- Midterm (20%)
- Final exam (30%)

Course Policy

- No late assignments will be accepted.
- Regarding your assignment grades, contact the TA within 10 days the assignment is handed back. After this period, your assignment stays as graded.
- Cheating directly affects the reputation of the Department and the University and lowers the morale of other students. Cheating in homework and exam will not be tolerated. An automatic grade of 0 will be assigned to any student caught cheating. Presenting another person's work as your own constitutes cheating. Everything you turn in must be your own doing.
- The following activities are specifically forbidden on all graded course work:
 - Theft or possession of another student's solution or partial solution in any form (electronic, handwritten, or printed).
 - Giving a solution or partial solution to another student, even with the explicit understanding that it will not be copied.
 - Working together to develop a single solution and then turning in copies of that solution (or modifications) under multiple names.

First thing to do

- Please visit the course web site on the e-learning platform of NTUT:
http://www.cc.ntut.edu.tw/~cmliu/DS/NTUT_DS_S09u-GIT/.
- please send an email to cmliu@csie.ntut.edu.tw. I will make a mailing list for this course. All the announcements will be broadcast via this mailing list.