

113-1 Full Curriculum of Da-Yeh University

Information			
Title	Data Structure	Serial No./ID	0384 / IFI2004
Required/Credit	Required /3	Time/Place	(Wed)234 / H707
Language	Chinese	Grade Type	Number
Lecturer /Full- or Part-time	Chun-Nan Hung /Full-time	Graduate Class	Non-graduating Class
School System /Dept /Class, Grade	Bachelor /Department of Computer Science and Information Engineering /Class 1, Grade 2		
Office Hour / Place	(Wed) 14:20~15:10, (Thu) 09:10~10:00, (Thu) 10:10~11:00, (Thu) 11:10~12:00 / H311		
Lecturer	、 Yu, Yao-Chung		

Introduction
To learn the principle of data structure and abstract data type, and practice the algorithms about data structure.

Outline
unit 1: introduction unit 2: arrays unit 3: linked lists unit 4: stacks and queues unit 5: trees unit 6: graphs

Prerequisite
programming or object-oriented programming

The Relationship Between Courses and Departmental Core Competencies and Basic Skills
 1.2 Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice  2.1 Ability to design and conduct experiments, as well as to analyze and interpret data 2.2 Ability to propose, conduct, and write the reports of a research project 2.3 Ability to dedign and integrate the systems  3.1 Ability to cooperate supportively with others and communicate effectively  3.3 Ability to engage in life-long learning  1.1 Knowledge of mathematics and physics for the application of information engineering 3.2 Understanding of engineering ethics and international vision

Teaching Plan						
Core Capability	Weight(%) 【A】	Ability index(Performance Indicators)	Teaching Methods	Assessment and Weight	Core Competency Learning Outcomes 【B】	Final Exam Grades 【C=B*A 】
1.2 Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	40	The practical abilities	Lecturing Practical Operation (Experiment, Machine Operation	Midterm Exam: 30% Final Exam: 30% Homework Assignment: 12% Course Participation: 18% Class Notes: 10%	Total: 100	40
2.1 Ability to design and conduct experiments, as well as to analyze and interpret data	30	The professional abilities	Lecturing	Midterm Exam: 30% Final Exam: 30% Homework Assignment: 22% Course Participation: 18%	Total: 100	30
3.1 Ability to cooperate supportively with others and communicate effectively	5	The basic abilities	Lecturing Practical Operation (Experiment, Machine Operation	Midterm Exam: 30% Final Exam: 30% Course Participation: 18% Homework Assignment: 22%	Total: 100	5
3.3 Ability to engage in life-long learning	5	The basic abilities	Lecturing Practical Operation (Experiment, Machine Operation	Midterm Exam: 30% Final Exam: 30% Homework Assignment: 22% Course Participation: 18%	Total: 100	5
1.1 Knowledge of mathematics and physics for the application of information engineering	20	The professional abilities	Lecturing Practical Operation (Experiment, Machine Operation	Midterm Exam: 30% Homework Assignment: 22% Final Exam: 30% Course Participation: 18%	Total: 100	20

Grade Auditing

Final Exam: 30%

Midterm Exam: 30%

Course Participation: 18%

Homework Assignment: 18%

Class Notes: 4%

Book Type (Respect intellectual property rights. Please use official textbooks and do not illegally photocopy others' works.)

Book Type	Book name	Author
Textbook	Fundamentals of Data Structures	Horowitz, Sahni, Mehta
Textbook	基礎資料結構/使用C++	Ellis Horowitz, Sartaj Sahni, Dinesh P. Mehta

Lesson Plan

Weeks	Content	Teaching Methods
1	Introduction and Basic concepts & Intellectual Property Protection (use legitimate textbooks only) & Traffic safety Propaganda & Gender equality education promotion	Lecturing、 Practical Operation (Experiment, Machine Operation
2	Introduction and Basic concepts	Lecturing、 Practical Operation (Experiment, Machine Operation
3	Arrays	Lecturing
4	Arrays	Lecturing、 Practical Operation (Experiment, Machine Operation
5	Arrays	Lecturing、 Practical Operation (Experiment, Machine Operation
6	Stacks and Queues	Lecturing、 Practical Operation (Experiment, Machine Operation
7	Stacks and Queues	Lecturing
8	Stacks and Queues	Practical Operation (Experiment, Machine Operation
9	midterm	Lecturing、 Practical Operation (Experiment, Machine Operation
10	Linked Lists	Lecturing、 Practical Operation (Experiment, Machine Operation

11	Linked Lists	Lecturing、 Practical Operation (Experiment, Machine Operation
12	Linked Lists	Lecturing、 Practical Operation (Experiment, Machine Operation
13	Trees	Lecturing、 Practical Operation (Experiment, Machine Operation
14	Trees	Lecturing、 Practical Operation (Experiment, Machine Operation
15	Trees	Lecturing、 Practical Operation (Experiment, Machine Operation
16	Graphs	Practical Operation (Experiment, Machine Operation
17	Oral report - about graphs and graph algorithms & Flexible Teaching/Learning	Flexible Teaching - Independent Action
18	Oral report - about graphs and graph algorithms & Flexible Teaching/Learning	Flexible Teaching - Independent Action