**課程名稱: C 程式設計**

開課系所 成功大學資訊系
開課教師: 張燕光
時數: 3
課程語言: 中文

課程網址 Course website: http://cial.csie.ncku.edu.tw
先修課程或先備能力 Prerequisite Course(s): 無

**教師聯絡資訊 Contact with teacher**

email: ykchang@zmail.csie.ncku.edu.tw
電話: (06) 275-7575 轉 62539

**助教資訊 Contact with tutor**

To be announced.

**學習規範 Course policy**

**評量方式 Grading**

|  |  |
| --- | --- |
| **方法** | **百分比%** |
|  |  |
| 作業 Assignments | 40 |
| 其他:出席與平時測驗 others | 10 |
| 期中考 Midterm Exam | 25 |
| 期末考 Term exam | 25 |

**教學方法 Teaching strategies**

1. You need to concentrate on the lectures given in class (3 hours a week). (please take notes)
2. You need to write the programming assignments by yourself. It takes a lot of time to complete the programming assignments (unpredictable amount of time for debugging).
3. You need another 9 hours per week to study the lecture notes and textbook. You are encouraged to read the English version of the textbook. Do not read the Chinese translation version.
4. It is required to use the gcc compiler in UNIX. Prior to writing your first C program in UNIX, you need to learn how to use a text editor in UNIX, which I prefer you to learn vi editor. (I am sure that you will not like vi in the beginning, but you will like it after you know it in the long run.)
5. Submit your program code with the result outputs from a sample run through ftp site (TBA).
6. In addition to uploading your program, you also need to turn in the hardcopy printout of your program and its results when you demo your programs to TA.

Due day: in class or 6 pm if no class that day and late penalty is 5 points per day, up to 5 days.
**copy homework is treated as negative points.**

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**課程教材 Course Material**

請上cial實驗室網頁 <http://cial.csie.ncku.edu.tw/>

**參考書目 References**

C Programming: A Modern Approach (2nd Edition) by K.N. King

**課程概述 Course Description**

本課目標期望學生能熟悉 程式語言C.
The course intends to have students to be familiar with C language programming.

**課程學習目標 Course objectives**

We expect to give undergraduate students the ability of C programming techniques.

**課程進度 Course Outline**

|  |  |
| --- | --- |
| **週次 Week** | **進度說明 Progress Description** |
| 1 | Introducing C & C Fundamentals |
| 2 | Formatted Input/Output |
| 3 | Expressions |
| 4 | Selection Statements & Loops |
| 5 | Loops & Basic Types |
| 6 | Arrays |
| 7 | Functions & Program Organization |
| 8 | Pointers |
| 9 | Pointers and Arrays |
| 10 | Strings & Mid-term |
| 11 | The Preprocessor |
| 12 | Large Programs & Structures, Unions, and Enumerations |
| 13 | Structures, Unions, and Enumerations |
| 14 | Advanced Uses of Pointers |
| 15 | Advanced Uses of Pointers & Low-Level Programming |
| 16 | Low-Level Programming |
| 17 | The Standard Library & Input/Output & Error Handling |
| 18 | Final |

　以上每週進度教師可依上課情況做適度調整。The schedule may be subject to change.

 **課程名稱: 競技程式設計**

開課系所: 資訊系

開課教師: 蔡孟勳

開課學年0104

開課學期 Semester: 2

時數: 3

課程語言: 中文

先修課程或先備能力 Prerequisite Course(s): 程式設計、資料結構

**教師聯絡資訊 Contact with Teacher**

tsaimh@csie.ncku.edu.tw

**助教資訊 Contact with Tutor**

cp\_ta@imslab.org

**學習規範 Course Policy**

**評量方式 Grading**

|  |  |
| --- | --- |
| **方法** | **百分比%** |
|  |  |
| 個人口頭報告 Presentations | 10 |
| 作業 Assignments | 90 |

**教學方法 Teaching Strategies**

|  |  |
| --- | --- |
| **方法** | **百分比%** |
| 講授 Lecture | 70 |
| 實作 Workshop | 30 |

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**課程教材 Course Material**

http://moodle.ncku.edu.tw/

**參考書目 References**

Programming Challenge, Steven S. Skiena, Miguel A. Revilla
Competitive Programming 2, Steven Halim and Felix Halim, 2011.

**備註 Remarks**

課程主要給要參加競賽的大二大三以及部分大四學生，作業量非常龐大，不適合單純要來學習程式撰寫的人，請欲選修的人仔細考慮。

**課程概述 Course Description**

訓練學生參加程式設計競賽所必須具備的程式撰寫技巧，以及解決問題的思考能力

**課程學習目標 Course Objectives**

 Skills of Problem Solving

 Design of Algorithm/Data Structure

 Performance Evaluation

**課程進度 Course Outline**

|  |  |
| --- | --- |
| **週次 Week** | **進度說明 Progress Description** |
| 1 | Introduction |
| 2 | Data Structure (1) |
| 3 | Data Structure (2) |
| 4 | Divide & Conquer (1) |
| 5 | Divide & Conquer (2) |
| 6 | Sorting (1) |
| 7 | Sorting (2) |
| 8 | Simulation (1) |
| 9 | Simulation (2) |
| 10 | Greedy Algorithm |
| 11 | Dynamic Programming (1) |
| 12 | Dynamic Programming (2) |
| 13 | Backtracking & Search (1) |
| 14 | Breaktracking & Search (2) |
| 15 | Graph Theory (1) |
| 16 | Graph Theory (2) |
| 17 | String Algorithm |
| 18 | Final Exam (On-site Test) |

　以上每週進度教師可依上課情況做適度調整。The schedule may be subject to change.