



EE1003 Introduction to Computer I



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Chapter 0 Course Introduction

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National Central University
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Course Website



◆國立中央大學新 ee-class 數位學習平台
➤<https://ncueeclass.ncu.edu.tw>

國立中央大學「新 ee-class 系統」 【我的課程】 陳重廣 ▾ 串繁體 ▾

 計算機概論 I Introduction to Computer I (EE1003*)

計算機概論 I Introduction to Comp...



Course

老師: 陳重廣 

身份: 老師 (切換)

 私密留言

 課程活動

 公告

 行事曆

 課程資訊

我的首頁 / 計算機概論 I Introduction to Computer I

最新公告  新增  複製

目前沒有公告

最近事件

目前沒有即將到期的作業、問卷或測驗。

課程活動  新增主題  複製  統計 

新增主題

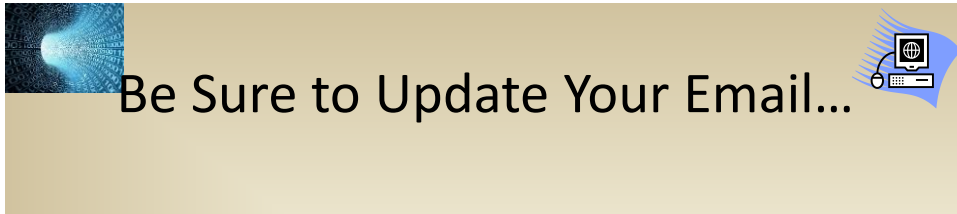


課程活動，是由主題 (如: 第一週、第二週) 以及其中的學習活動 (教材、作業、問卷...) 所組成。

上傳 EverCam



用簡單拖曳的方式，可以一次上傳多個 EverCam 的檔案 (.ecm)




國立中央大學「新 ee-class 系統」

我的首頁 陳聿廣 ▾

- 我的筆記
- 問卷中心
- 個人資訊**
- 登出

我的首頁



陳聿廣

最近事件

沒有資料

最新公告

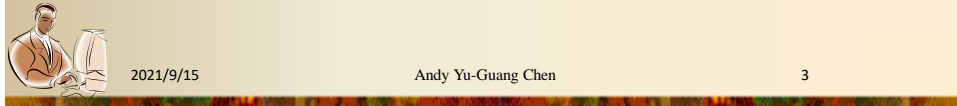
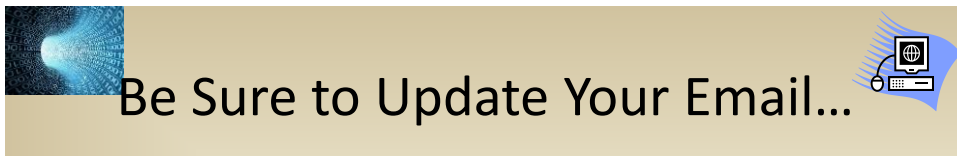
09-13 Welcome to "Introduction to Computer I" Course

09-10 Welcome to Introduction to Computer Science Labora...

最新討論

目前沒有討論


我的課程

國立中央大學「新 ee-class 系統」

我的首頁 陳聿廣 ▾

個人資訊



- 基本資訊
- 歷年課程
- 變更密碼

個人基本資訊

基本資訊 ☒ 編輯

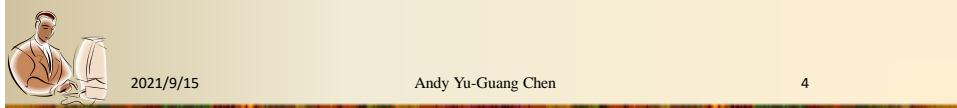
姓名 陳聿廣

個人網站 未設定

自我介紹 未設定

身份 老師

帳號資訊



Be Sure to Update Your Email...

▲ 聯絡資訊

電子郵件

此欄位填寫的內容只對管理者公開

備用郵件

電話

此欄位填寫的內容只對管理者公開

通訊地址

電機工程學系		教育目標	
		勤勞樸實，誠信善良 厚實專業技能，展現創新獨立研發能力 具備前瞻眼光及國際宏觀視野之領導人才	
大學部學生畢業時須具備核心能力		研究所學生畢業時須具備核心能力	
運用工程知識 <small>Engineering Knowledge</small>	運用數學、科學及工程知識解析電機工程領域問題的能力	運用工程知識 <small>Engineering Knowledge</small>	運用專業知識解析電機工程領域問題的能力
實作能力 <small>Investigation and Implementation</small>	設計與執行實驗，以及分析與詮釋數據的能力	實作能力 <small>Investigation and Implementation</small>	設計與執行專題實驗，以及分析與詮釋數據的能力
使用工程工具 <small>Tool Usage</small>	執行工程實務所需技術、方法及使用工具之能力	領導管理 <small>Project Management</small>	執行工程實務所需領導管理及規劃之能力
應用工程設計 <small>Application Engineering</small>	應用現今工程技術、方法、工具分析與設計工程系統軟體、元件或製程之能力	分析/獨立解決能力 <small>Problem Analysis and Independent Working</small>	發掘、分析與獨立解決問題的能力
多元化團隊合作 <small>Diversified Team Work</small>	培養多元化團隊合作的能力	工程整合能力 <small>Engineering Integration</small>	具備整合工程技術、元件、製造及系統軟體之能力
理解分析能力 <small>Problem Analysis and Solving</small>	發掘、分析及解決問題的能力	溝通/協調/團隊合作 <small>Communication and Team Work</small>	養成溝通、協調與團隊合作之能力
論文寫作/語文表達 <small>Writing Skill and Presentation</small>	具備以簡報及正式工程文獻寫作方式表達技術性議題之能力	論文寫作/語文表達 <small>Writing Skill and Presentation</small>	熟習簡報準備、科技論文及正式工程文獻寫作方式之技巧及表達能力
環境影響/終生學習 <small>Environment caring and Life-long Learning</small>	關注時事議題，瞭解電機工程技術對環境、社會及全球的影響，並養成終生學習的習慣與能力	環境影響/終生學習 <small>Environment caring and Life-long Learning</small>	關注時事議題，瞭解電機工程技術對環境社會及全球的影響，並養成持續學習的習慣與能力
工程倫理 <small>Ethics and Social Responsibility</small>	具專業倫理及社會責任之認知	工程倫理/尊重智產 <small>Ethics and Intellectual Property Respect</small>	具專業倫理、尊重智慧財產權及社會責任之認知



Outline

- ◆ Basic information about this course
- ◆ What will you learn in this semester?
- ◆ Grading and regulations



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Outline

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Introduction to Computer I (EE1003)

- ◆ This course will introduce C++ language and how to write a “good” C++ code
- ◆ Course type
 - Undergraduate course
 - Department Required Course
 - Freshman students
- ◆ Credits: 3 units
- ◆ Class Time:
 - ◆ Wednesday 14:00-14:50
 - ◆ Thursday 13:00-14:50
- ◆ Class Location: Hybrid classes for the entire semester
 - ◆ On-line lectures through Google Meet
 - ◆ Group A: meet.google.com/aua-cfvr-eio
 - ◆ Group B: meet.google.com/xfn-egcb-azd
 - ◆ In-person Midterm/Final Exams



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About Virtual Classes...

- ◆ Please use your real name in your Google Account
 - Otherwise TA may be not able to find you



1. Profile picture icon

2. 管理你的 Google 帳戶 (Manage your Google Account)

3. 姓名 (Name) field showing 陳幸廣

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About Virtual Classes...



◆ Please use your real name in your Google Account

➤ Otherwise TA may be not able to find you

4.

5.



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About Virtual Classes...



◆ If you have concerns on putting your name on Google Account.....

- Please apply an new account of NCU G Suite for Education
- <https://www.cc.ncu.edu.tw/page/Gsuite>

首頁 / 帳號服務 / G Suite for Education

G Suite for Education

服務說明

(Google 已將 Google Apps 服務的名稱修改為 G Suite，文章中所提到的所有 Google Apps 服務即代表 G Suite 服務。)

為使教職員生使用 Google Applications 教育版所提供之資源，本中心建置 Google Apps for Education 帳號申請頁面。

申請教學

1. 由此進入 **G Suite for NCU** 頁面
2. 操作說明請參考該連結 "Google Apps 申請教學.pdf"
3. 若帳號申請過程有任何疑義或問題，請將畫面截圖寄至 ncucc@cc.ncu.edu.tw，本中心將儘速提供協助。
4. 申請本帳號時，請詳讀 "國立中央大學 Google Apps 服務申請同意書"，同時遵守 Google Applications 相關使用規範。
5. 使用說明，由此進入 **G Suite For NCU 使用說明網頁**



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Instructor



- ◆ Name : 陳聿廣 (Andy Chen)
- ◆ Affiliation : Assistant Professor, Department of EE, NCU
- ◆ Experience :
 - Adjunct Assistant Professor, Department of CS, NTHU
 - Assistant Professor, Department of CSE, YZU
 - Lecturer, Department of ECE, Missouri S&T, Missouri, USA
 - Research Fellow, Department of CSE, Notre Dame, Indiana, USA
- ◆ Research Interests :
 - Electronic Design Automation (EDA)
 - Circuit Aging Mitigation and Tolerance
 - Reliable IMC Design
 - PDN Design and Optimization
 - AI Accelerator Design for Edge Devices
 - Hardware Security



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Instructor



- ◆ Email: andygchen@ee.ncu.edu.tw
- ◆ Phone: 03-4227151#34457
- ◆ Office: E1-336, Engineering Building 2
(College of Electrical Engineering & Computer Science)
- ◆ Office hours:
 - Wednesday 3PM-5PM
 - I'm often available at other times
 - Please reserved by E-mail



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Teaching Assistants



- ◆ TA Office: E1-359
- ◆ Office Hours: Reserved by E-mail (黃柏燁助教)

黃柏燁

王啟旭

林俐秀

何宜真



楊云緯

2021/9/15

梁育銓

Andy Yu-Guang Chen

金昌明

楊修宜

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Course Purpose

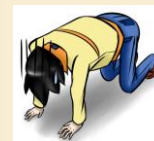


- ◆ A good opportunity for improving your C++ coding skills
- ◆ Why we need C++ coding skills?
 - To solve problems through programming
 - Fundamental skills for learning programming
 - Can help you deal with complicated problems in other courses or competitions
 - Because it is a required course.....



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Outline



- ◆ Basic information about this course
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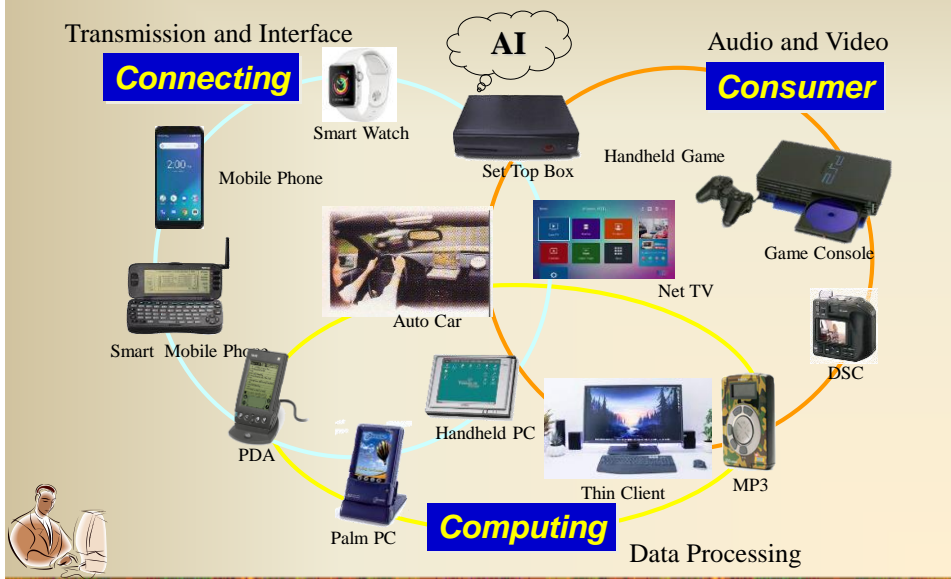
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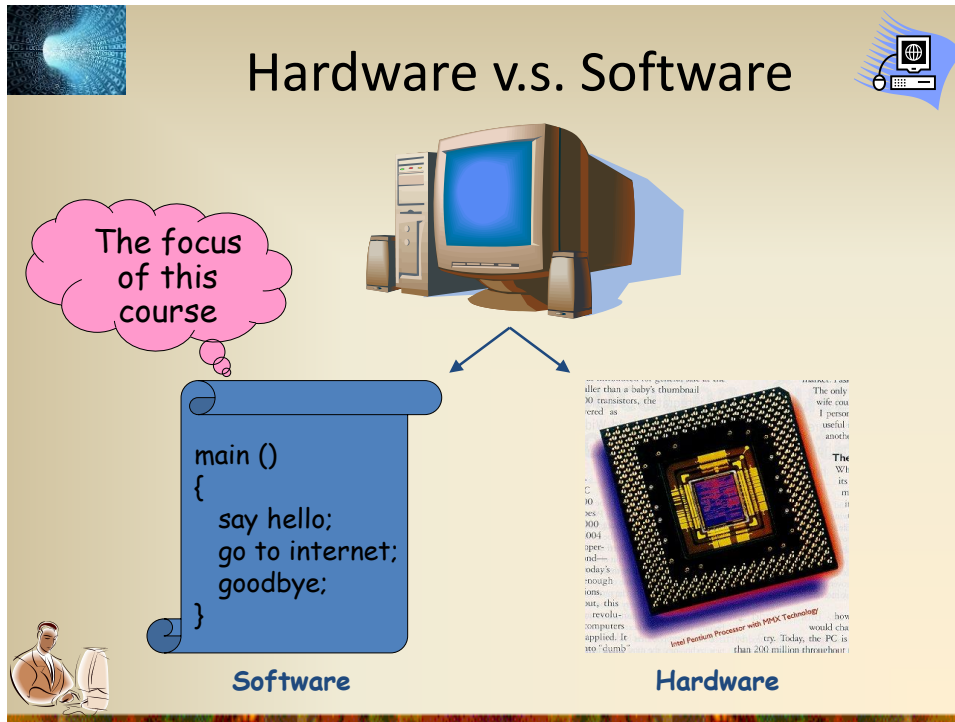
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3C Integrations





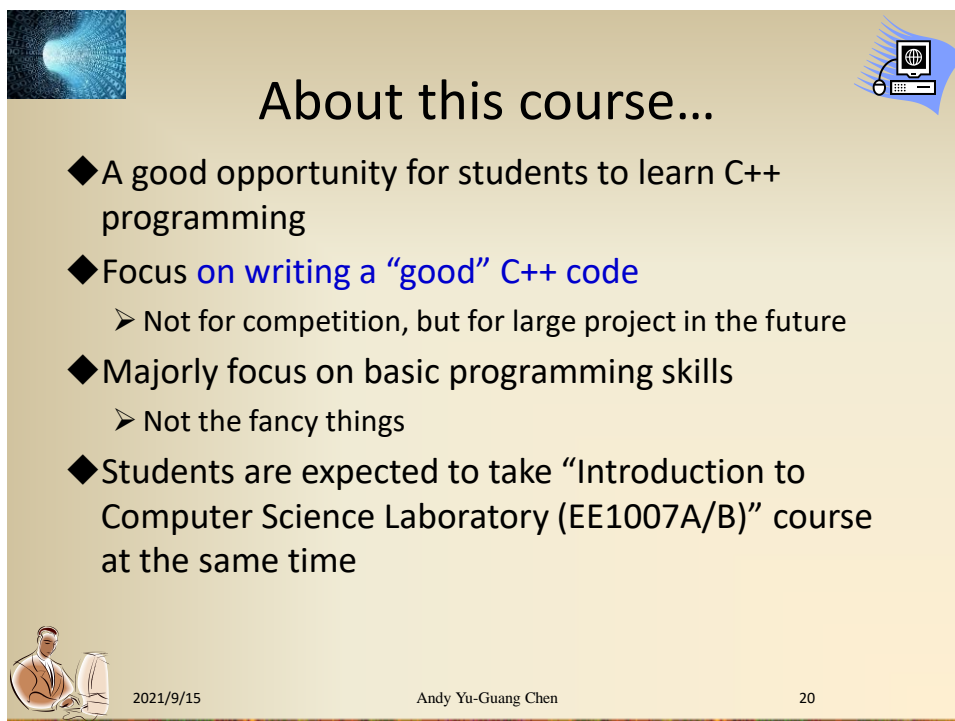
Hardware v.s. Software

The focus of this course

```
main ()
{
    say hello;
    go to internet;
    goodbye;
}
```

Software

Hardware



About this course...

- ◆ A good opportunity for students to learn C++ programming
- ◆ Focus on writing a “good” C++ code
 - Not for competition, but for large project in the future
- ◆ Majorly focus on basic programming skills
 - Not the fancy things
- ◆ Students are expected to take “Introduction to Computer Science Laboratory (EE1007A/B)” course at the same time



A good C++ code?



◆ Working Code

- Looks good to me
- Solve today's problem
- Easiest to measure from outside

◆ Good Code

- Looks good to you
- Solve tomorrow's problem
- Evaluating it is just as hard as writing it
- Full of comments



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Course Objectives



◆ You are in the **wrong class** if you

- want to learn more on fancy skills of C++
- want to join time-limited programming competitions (ex:ICPC)
- are not interested in the programming at all

- But this is a required course Orz...



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Contents



- ◆ Chapter 1 - Introduction to Computers
- ◆ Chapter 2 - Introduction to C++ Programming
- ◆ Chapter 3 - Control Statement: Part 1
- ◆ Chapter 4 - Control Statement: Part 2
- ◆ Chapter 5 – Functions and Recursion
- ◆ Chapter 6 - Arrays and Vectors
- ◆ Chapter 7 - Pointers
- ◆ Chapter 8 - Sequential-Access Files
- ◆ Chapter 22 - Bits, Characters, C Strings and structs
- ◆ Chapter 9 - Classes
- ◆ Chapter 10 - Classes: A Deeper Look
- ◆ Chapter 15 - Stream Input/Output



Syllabus



Date	Week	Progress	PA Due
9/15	1	Course Introduction (Pre-recorded)	
	-	Chapter 1 - Introduction to Computers (Pre-Recorded)	
9/22-23	2	Chapter 2 - Introduction to C++ Programming	
9/29-30	3	Chapter 3 - Control Statement: Part 1	
10/6-7	4	Chapter 4 - Control Statement: Part 2	
10/13-14	5	Chapter 5 – Functions	PA1
10/20-21	6	Chapter 5 – Recursion	
10/27-28	7	Chapter 6 - Arrays	
11/3-4	8	Chapter 6 - Arrays	PA2
11/10-11	9	Midterm Exam	





Syllabus



Date	Week	Progress	PA Due
11/17-18	10	Chapter 6 – Vector and String	
11/24-25	11	Chapter 7 - Pointers	PA3
12/1-2	12	Chapter 7 - Pointers	
12/8-9	13	Chapter 8 - Sequential-Access Files	
12/15-16	14	Chapter 22 - Bits, Characters, C Strings and structs	PA4
12/22-23	15	Chapter 9 – Classes	
12/29-30	16	Chapter 10 - Classes: A Deeper Look	
1/5-6	17	Chapter 15 - Stream Input/Output	PA5
1/12-13	18	Final Exam	
1/17	19	Final Project Due	



Note: 1. We may not be able to cover all topics
2. Progress is subject to change based on your learning situation

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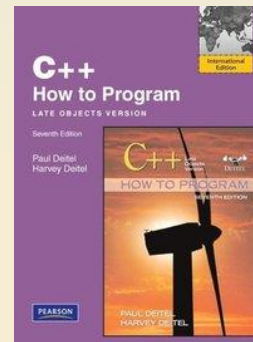


Textbook



◆ C++ How to Program - Late Objects Version

- By P. J. Deitel and H. M. Deitel
- 7th Edition (2011)
- Pearson Education Inc.
- ISBN: 0-13-248458-7



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Textbook



◆ Handouts from Instructor

◆ The slides will be posted on ee-class prior to the class

◆ For class attendees only

◆ Please don't distribute without prior permission



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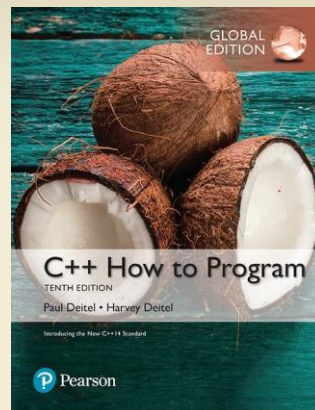


Reference Books



◆ C++ How to Program

- By P. J. Deitel and H. M. Deitel
- 10th Edition
- Pearson Education Inc.
- ISBN-10: 013444888X



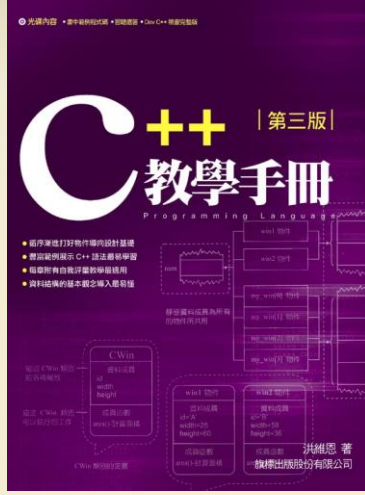
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Reference Books

- ◆ C++ 教學手冊 第三版
 - 洪維恩
 - 旗標出版
 - ISBN：9789577179371



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Resources

- ◆ YouTube Videos
 - Search "C++"



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Resources

◆ Website

➤ LEARN C++



Chapter 3

- 3.1 Syntax and semantic errors
- 3.2 The debugging process
- 3.3 A strategy for debugging
- 3.4 Basic debugging tactics
- 3.5 More debugging tactics
- 3.6 Using an integrated debugger: Stepping
- 3.7 Using an integrated debugger: Running and breakpoints
- 3.8 Using an integrated debugger: Watching variables
- 3.9 Using an integrated debugger: The call stack
- 3.10 Finding issues before they become problems
- 3.x Chapter 3 summary and quiz

Chapter 4

Fundamental Data Types

- 4.1 Introduction to fundamental data types
- 4.2 Void
- 4.3 Object sizes and the sizeof operator

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Resources

◆ GeeksforGeeks



C++ Programming Language
Last Updated : 24 Jun, 2021


C++ is a general purpose programming language and widely used now a days for competitive programming. It has imperative, object-oriented and generic programming features. C++ runs on lots of platform like Windows, Linux, Unix, Mac etc.

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Resources

◆ More Learning websites

➤ Search “C++ 教學”



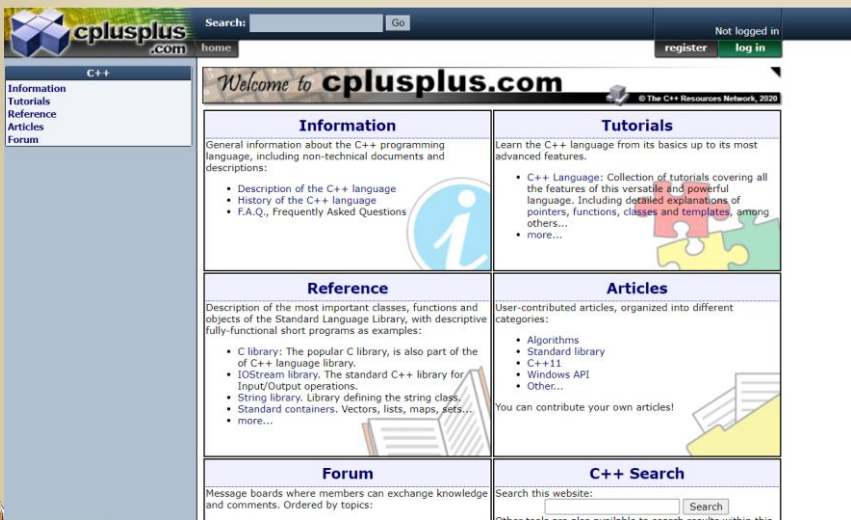
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Resources


◆ cplusplus.com



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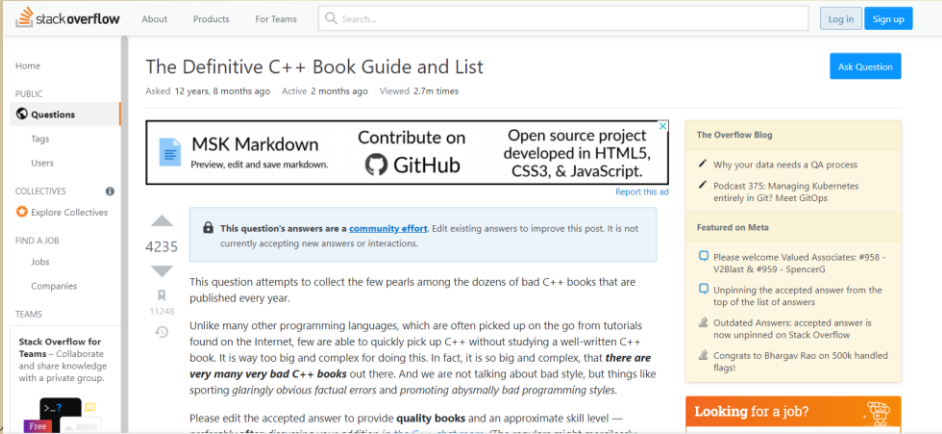
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Resources

◆ Stack overflow


➤ <https://stackoverflow.com/questions/388242/the-definitive-c-book-guide-and-list>



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Outline

- ◆ Basic information about this course
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Programming Assignment (40%)



- ◆ Please submit your assignment on time
- ◆ Grading of each assignment will be announced with assignment document
- ◆ Late submission penalty
 - Make-up within 72hrs: 20%
 - More than 3 days: 0 point
 - You have to find a TA for making-up demo, otherwise you will get 0 point



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Quizzes and Attendance (10%)



- ◆ You are required to attend the class
- ◆ Ask for absence with reasonable excuse through E-mail (to 黃柏燁助教 and cc me) **BEFORE class**
 - The class will start at 14:00/13:00, you should ask for absence before that time!
- ◆ Randomly rollcalls come with quizzes
 - You get 0 point if you miss the quiz
 - Students ask for absence BEFORE class can have a make-up exam
- ◆ If you cut the class, you will be responsible for procuring any material, information, handouts, or announcements that you missed



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Midterm(15%)/Final Exams (20%)



- ◆ Close-book writing exam (individual)
- ◆ We will focus on important concepts / easy coding / execute a given code ...
- ◆ Ex:
 - What are the differences in between “call-by-value” and “call-by-reference”?



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Final Project (15%)



- ◆ You will be asked to complete a comprehensive (middle-size) programming question
- ◆ Details will be announced at the middle of the semester
- ◆ If you fail to submit your final project, you will get at most 59 of your semester score no matter how many points you get through the grading policy



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Bonus (??%)



- ◆ Will directly be added to your semester scores with special ratio
- ◆ There are a couple of ways to obtain bonus points
 - not be penalized for not completing the extra tasks
 - strongly recommend you to take them when available



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Bonus (??%)



- ◆ In the class
 - Ask questions
 - Answer questions
 - Correct me if I make mistakes
 - Opportunities are limited, first come first serve!



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Bonus (??%)

- ◆ In the programming assignment
 - We may have some bonus problems
 - For the announced due day only, no late submission
- ◆ Joint Invited talk or some special events
- ◆ More opportunities may occasionally be offered.....



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How to Pass This Course

- ◆ Attend every class
 - Concentration
 - **Ask**, if you do not understand (in class or office hours)
 - **Finish every problem in the class**
- ◆ Study
 - Preview, review, and practice
 - Focus on handouts and use the textbook as a reference
- ◆ **You are expected to spend a lot of time on debugging**
- ◆ Do good job at exams
- ◆ Make good friendships with your classmates / TAs (?)



Digital System Design - Syllabus



How to Pass This Course

◆ Cheating?!?

➤ **Don't do it!**

- My policy is to fail you in the course and report your behavior to the University.



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Academic Honesty

- ◆ “**Cheating**” is very uncivilized behavior and should be avoided at all cost
- ◆ **Oral discussion is encouraged and is not considered as cheating**
- ◆ Copying someone's codes / exams or part of codes / exams is cheating
- ◆ If cheating is discovered
 - My policy is **to fail all of you (抄襲者與被抄襲者) in the course and report your behaviour to the University**
 - All students involved will be reported





Academic Honesty




直接拿別人的Code




跟大家討論完後自己寫




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How to Pass This Course



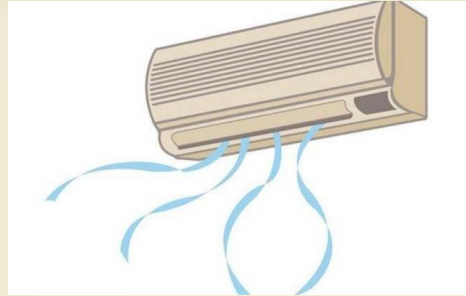
- ◆ Cheating including.....
 - Copy other's code
 - Ask others to write a code for you
 - Copy and paste from internet resources without clearly identify
 -



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甜度?涼度?



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READY
— FOR —
DEPARTURE



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A slide with a light beige background. At the top, the text "Q&A" is written in a large, black, sans-serif font. Below it is a white rectangular box containing a cartoon illustration of a boy with black hair, wearing a blue jacket over a white shirt, holding a red book. He has a yellow question mark above his head. In the bottom-left corner, there is a small illustration of a person sitting at a desk. In the bottom-right corner, the number "54" is visible. The date "2021/9/15" is in the bottom-left, and the name "Andy Yu-Guang Chen" is in the bottom-right.

Q&A

◆ Please leave you question(s) at the discussion thread "Course Introduction" at the ee-class

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