EE1003
Introduction to Computer I

Chapter 0
Course Introduction

Andy, Yu-Guang Chen
Assistant Professor, Department of EE
National Central University
andyygchen@ee.ncu.edu.tw

Course Website

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

Be Sure to Update Your Email…

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Outline

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

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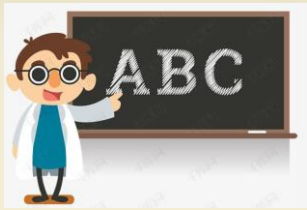
Introduction to Computer I (EE1003)

- 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 lecturers through Google Meet
    - Group A: meet.google.com/aua-cfvr-eio
    - Group B: meet.google.com/xfn-egcb-azd
  - In-person Midterm/Final Exams



About Virtual Classes…

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

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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

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

Instructor

- Email: andyygchen@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

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　梁育銓　金昌明　楊修宜

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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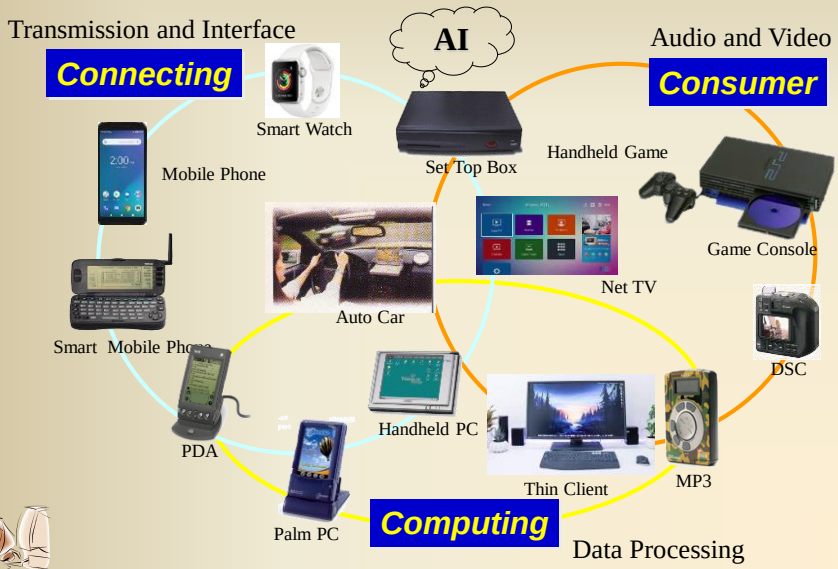
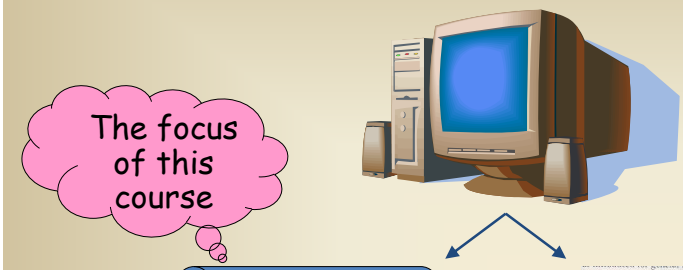
3C Integrations



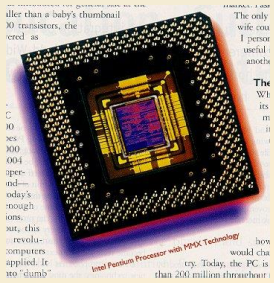
Hardware v.s. Software



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

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…

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	

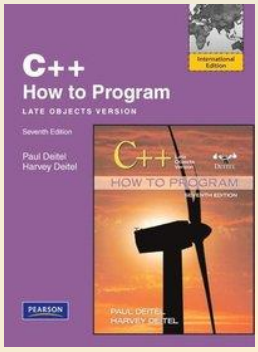
Syllabus

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

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

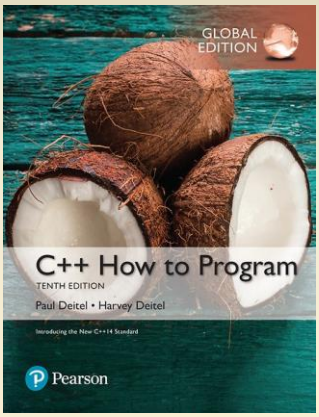


Textbook

- 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

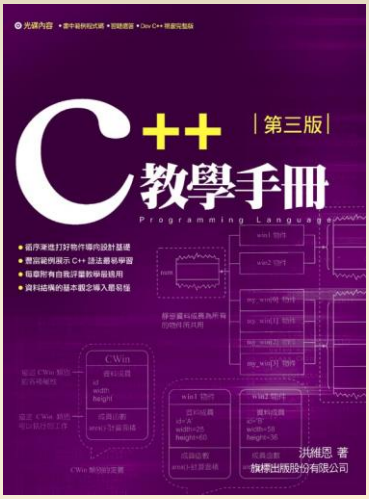
Reference Books

- C++ How to Program
  - By P. J. Deitel and H. M. Deitel
  - 10th Edition
  - Pearson Education Inc.
  - ISBN-10: 013444888X



Reference Books

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



Resources

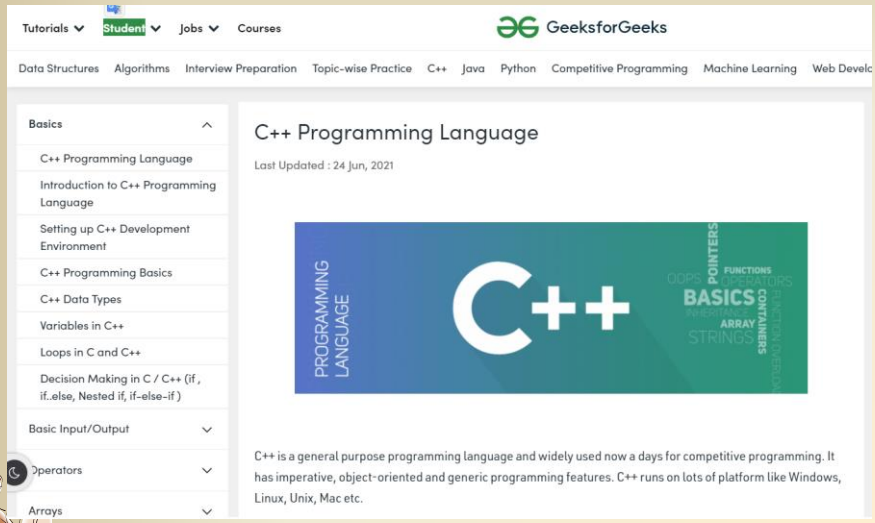
◆YouTube Videos
- Search “C++”

Resources

- Website
  - LEARN C++

Resources

- GeeksforGeeks

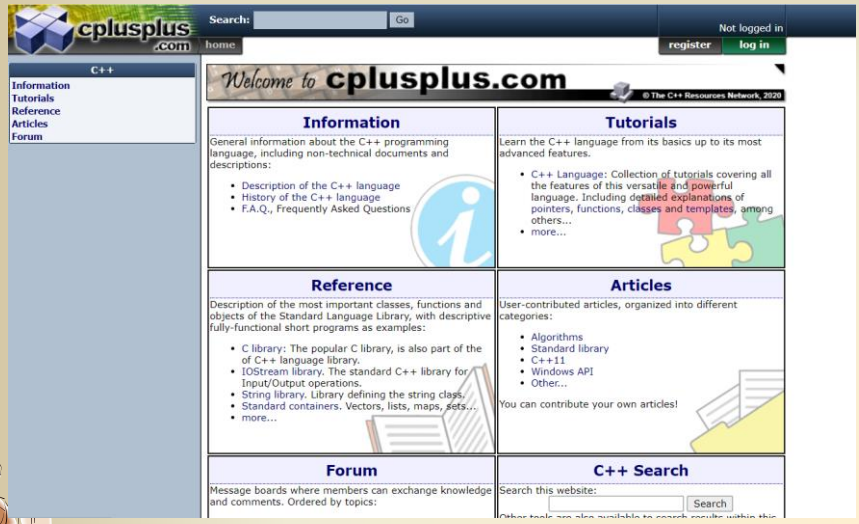


Resources

- More Learning websites
  - Search "C++ 教學"

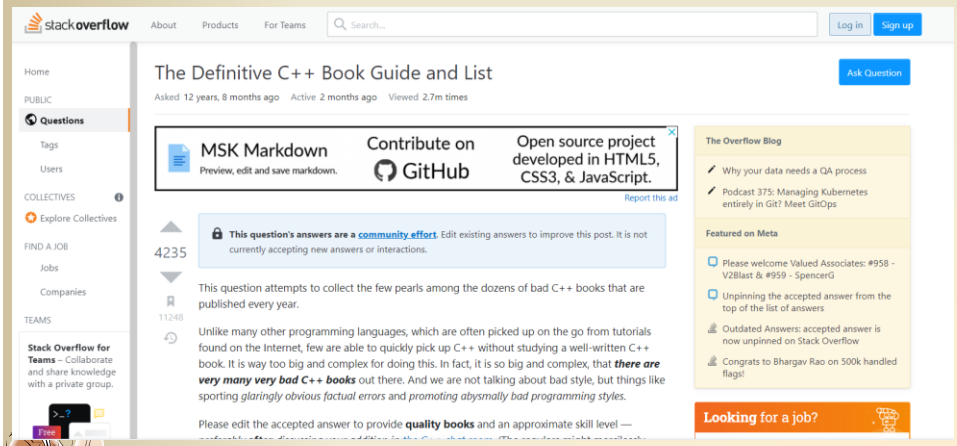
Resources

- cplusplus.com



Resources

- Stack overflow
  - https://stackoverflow.com/questions/388242/the-definitive-c-book-guide-and-list



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Grading Policy

Programming Assignment	40%
Quizzes and Attendance	10%
Midterm Exam	15%
Final Exam	20%
Final Project	15%
Bonus Points	??%

- You will pass this course if you get 60 points or more
- I only can give you at most 100 points
- 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 above policy

Programming Assignment (40%)

- We plan to have 5 programming assignment (relatively difficult coding problems) over the semester
- Students have to finish the coding individually before deadline (due day)
- You have attend the demo session and TA will evaluate the correctness, read your code, asking you questions … after the deadline
  - The form will be decided later

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

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

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”?

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

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

Bonus (??%)

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

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……

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 (?)

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.

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

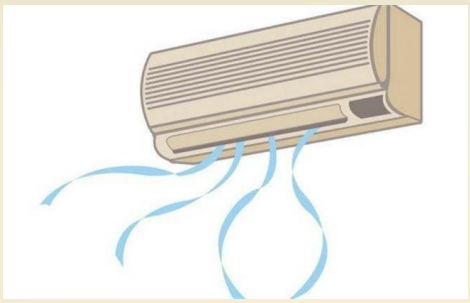
直接拿別人的Code

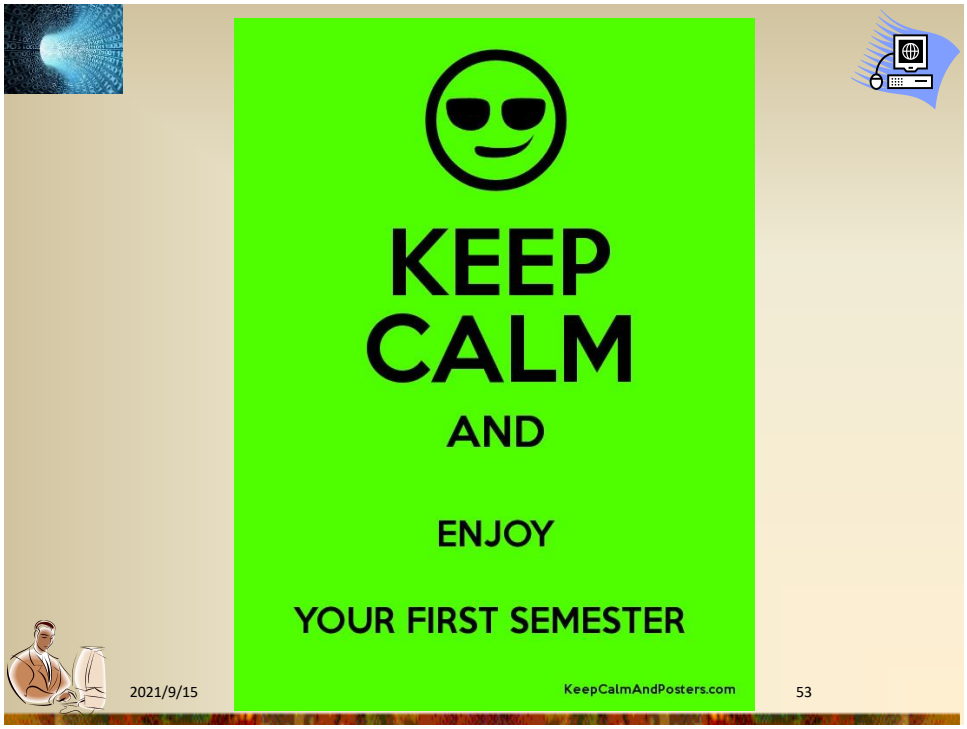
跟大家討論完後自己寫

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
  - ……

甜度?涼度?





Q&A

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

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Assistant Professor, Department of EE, NCU

Email: andyygchen@ee.ncu.edu.tw