

Final Words

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Before the ~~Midterm~~

- Basics of DSA/C++ ✓
- Arrays: dense, sparse ← 2D-
- Linked Lists: singly, circular, doubly
- Analysis Tools
- Stacks, Queues, Dequeues: expression parsing
- List Iterator → maze
- Trees: general, binary, traversal

hierarchical

After the Midterm

- Heap
- Hashing: chaining, probing, dynamic
- Skip Lists
- Search Trees: BST, AVL, 2-3-4, RB
- Sorting: bubble, selection, insertion, shell, merge, heap, quick

"array"
heap sort

← array

← linked list

key

counting, radix

BST

↓ sparse array
↓ merge
↓ heap

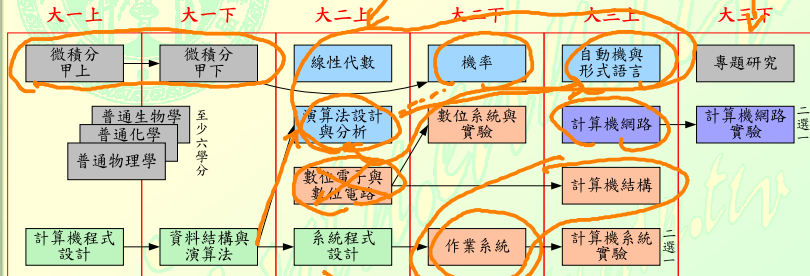
(courtesy of Prof. Chuen-Liang Chen)

系定必修課程流程圖

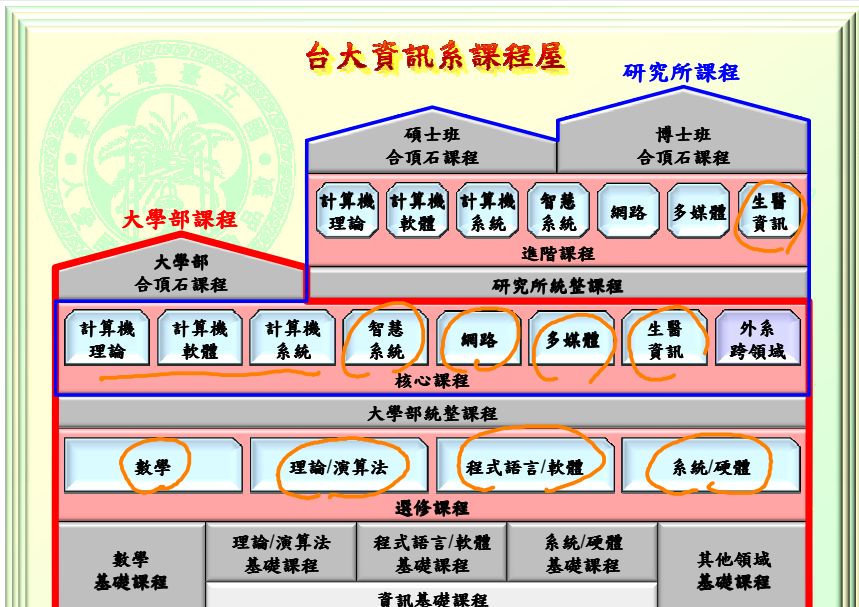
multimedia

matrix

→ ML



programming



How to Be an Excellent Programmer?

ability / characteristic	related courses
sincere, communication, work hard, ...	
• domain knowledge	
• language feature • workable program • bug-free program e.g., C# property, DateTime.Now • most suitable feature e.g., if vs. switch statements	Programming Language (Compiler) (Operating System) (Computer Architecture)
• program behavior	Data Structure Algorithm
• API, library • simple API e.g., Date, Calendar, GregorianCalendar • complex API, with design concept e.g., swing's event/listener, RMI	
• experience • write program by yourself • trace other's real & good program	(Data Structure) (Algorithm)

Most Important of All: Never Stop Learning!

<http://www.books.com.tw/exep/prod/booksfile.php?item=0010464414>

獻給還在大學裡的師牛師妹們，尤其是今晚想幹 IT 這一行的人
一群 IT 小小鳥，來自不同的國家、不同的系、不同的班、不同的生、不同的生
在大學中追求理想，在迷途中找到方向
從嚴厲的師牛師妹們
本科不能讀，考研少管住，實習別放過，求職心中有數
畢業不尋就業，自己給自己開路



浙江大學 著 蔡學謙 編譯

THANK YOU!!