組合語言 Assembly Language 資訊工程系四日一C 課號 2351

Instructor:洪士程

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Room:理工大樓E317.4

Tel: 7801

Course Time & Office Hours

- **Course Time**
- Friday 2,3,4 (9:10 12:00)
- Classroom: E-519

- Office Hours
- Wednesday 9:00-12:00

Credits

Required or Elective Required (必修)

Credits

3 Credits (三學分)

Goal

- Understand the architecture of 8051.
- Leaning 8051 programming.
- Prepare for the 8051 laboratory.

8051 is a microcontroller.

• 1981, Intel MCS-51

Microcontroller:

- A smaller computer
- On-chip RAM, ROM, I/O ports...
- Single-purpose

Some Products Using 8051 (1/2)

- Security systems
 - Sensor, motion detector, power detector, smoke detector
 - Audio alarm, user authentication

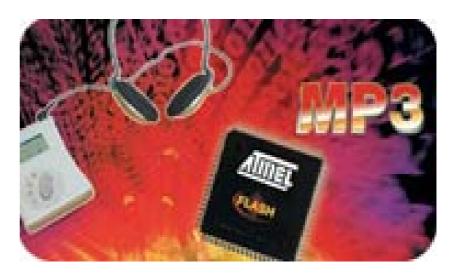




Ref: http://www.maxim-ic.com/solutions

Some Products Using 8051 (2/2)

- MP3 player
 - standalone hard-wired MPEGI/II Layer-3 decoder with C51 microcontroller core handling dataflow control and MP3-player control.
- Smart card reader
- USB controller



Ref: http://www.atmel.com/products/MP3/

Text Book

- The 8051 Microcontroller and Embedded Systems, Using Assembly and C.
 - Muhammad Ali Mazidi
 - Janice Gillispie Mazidi
 - Rolin D. McKinlay

Reference Books

Reference:

Kenneth J. Ayala, The 8051 Microcontroller,
3rd edition, THOMSON, 2005.

Schedule of Progress (1/3)

- Introduction to computing (week 1,2)
- The 8051 micro-controllers (week 2)
- Assembly language programming (weeks 3,4)
- Jump, loop, and call instructions (week 5,6)
- I/O port programming (weeks 7,8)
- Midterm (week 9)
- 8051 addressing modes (weeks 10,11)

Schedule of Progress (2/3)

- Arithmetic & logic instructions and programs (week 12)
- 8051 Hardware Connection and Intel HEX file (week 12)
- 8051 Timer programming in Assembly (weeks 13)
- 8051 serial port programming in Assembly (week 14)

Schedule of Progress (3/3)

- Interrupts programming in Assembly (week 15)
- Timer programming (week 16)
- LCD and keyboard interfacing (week 17)
- Project & Report (week 17)

Resources

- Text Book
- Handout

http://admin.cyut.edu.tw/crsinfo/

8051-CH0.pdf ~ 8051-CH11.pdf

Evaluation

- Homework (30%)
- Participation (10%)
- Mid exam (30%)
- Project & Report (30%)

學習方式要有技巧

- 事者去適應英文課本、英文教學、投影 片教學・
- **型投影片只是重點提示,課本一定要精讀**
 - 來不及抄筆記就請先預習·
 - 找別人共同討論·
- **』課程內容很多,課本一定上不完**
 - 不可能慢慢教或補課
 - 自己回家唸書是在建立將來自我學習能力

態度決定一切

- 』上課遲到、睡覺、看別科的書、跟不上 進度發呆?
 - 跟不上進度就不要怪別人了!
- **』是否有心學習**
 - 預習、複習、作業自己寫
 - 每一科、每星期至少花4小時以上唸書
 - 有問題上課發問、下課找老師詢問或反應

Made in Taiwan→Made by Taiwan

Production		2006	2007
Notebook	Made by Taiwan	67%	72%
	Made in Taiwan	21%	9%
Ethernet Switch	Made by Taiwan	43%	38%
	Made in Taiwan	26%	16%
CD/DVD Disc	Made by Taiwan	69%	61%
	Made in Taiwan	67%	50%
Cell Phone	Made by Taiwan	9%	8%
	Made in Taiwan	6%	5%
WLAN	Made by Taiwan	91%	95%
	Made in Taiwan	78%	53%
Cable Modem	Made by Taiwan	53%	53%
	Made in Taiwan	41%	26%

重點技術

- 2010年日本預測之重點科技:
 - 地球科學與環境技術, 資訊科技, 生命科學技術, 社會基礎建設技術, 材料技術, 製造與管理