# Syllabus

***COEN 210 Computer Architecture***
***Department of Computer Engineering***
***Santa Clara University***


Dr. Ming-Hwa Wang — Fall Quarter 2002
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Office Hours: — Monday & Wednesday 9:00-9:30pm


## *Course Description*

Please refer School of Engineering Graduate Programs.

## *Prerequisite*

Logic Design.

## *Textbook*

1. "Computer Architecture: A Quantitative Approach, 3rd Edition", by John L. Hennessy, David A. Patterson, and David Goldburg, Morgan Kaufmann Publishers, 2002
2. "Structured Computer Organization, 4th Edition", by Andrew S. Tanenbaum, Prentice Hall, 1999

## *References*

1. "Computer Organization", by V Carl Hanmacher, Safwat G. Zaky, and Zvonko G. Vranesic, MaGraw Hill, 2001
2. "Computer Systems Organization & Architecture", by John D. Carpinelli, Addison Wesley, 2000
3. "Computer Organization & Design: The Hardware/Software Interface, 2nd Edition", by David A. Patterson and John L. Hennessy, Morgan Kaufmann Publishers, 1998
4. "Parallel Computer Architecture: A Hardware/Software Approach", by David E. Culler, Jaswinder Pal Singh, and Anoop Gupta, Morgan Kaufmann Publishers, 1998
5. "Computer Organization, A Top-down Approach", by Greg W. Scragg, MaGraw Hill, 1992

## *Grading Policy*

Course grade is determined based on the total score (maximum 1000 points + up to 200 optional bonus points for extra work) from:

1. Mid-term and final exams of 250 points each (close book with one A4 note and a calculator.) Makeup exams (must have a very good reason for makeup) are much difficult than normal exams.
2. Two programming assignments of 100 points each (late penalty: 20 points/day.) Makeups are more difficult too.
3. A group (prefer 2-3 people in a team) programming term project of 300 points (late penalty: 60 points/day.) No makeup is allowed.
4. Bonus assignments will be assigned at each lecture with 10 points each. Due before next lecture begin. The solution for bonus point will be posted on my protected web page. No late work accepted for bonus assignments. 75-80% of exam questions are similar to bonus.
5. Class average targeted at **B+**.

Table 1: Grade-score table

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1000 - 1200 | 950 - 999 | 900 - 949 | 850 - 899 | 800 - 849 | 750 - 799 | 700 - 749 | 650 - 699 | 0 - 649 |
| A | A- | B+ | B | B- | C+ | C | C- | F |

## *Course Schedule* (Monday/Wednesday 7:10pm-9:00pm)

Table 2: Course Schedule

| # | week | Readings | Remarks |
|---|---|---|---|
| 1 | 9/23 9/25 | introduction | submit due 9/25 |
| 2 | 9/30 10/2 | assembly language level | |
| 3 | 10/7 10/9 | binary & floating point numbers | program #1 due 10/6 |
| 4 | 10/14 10/16 | computer system organization | |
| 5 | 10/21 10/23 | digit logic level | program #2 due 10/20 |
| 6 | 10/28 10/30 | micro-architecture level | mid-term exam 10/28 |
| 7 | 11/4 11/6 | instruction set architecture level | problem due 11/4<br>group & topic due 11/6 |
| 8 | 11/11 11/13 | operating system machine level | proposal due 11/11 |
| 9 | 11/18 11/20 | parallel computer architectures | |
| 10 | 12/2 12/4 | paper | final exam 12/4 |
| 11 | 12/9 | | project defense 12/9 |

## *Reminder*

- No cheating, and no register complaint without talking to me first.
- No incomplete. Due date for withdraw is November 22.
- No sit-in or audit the class except formally registered.
- Read files under /home/mwang2/tips for help.
- Prepare a self-addressed and stamped envelope if you want your last programs or final to be returned.
- Handouts, assignments, and solutions will be posted on the web. You should check the class web site at least once a week. You are responsible for printing and bring the handout to the class.

### *Honor Code*

All students taking course in the school of engineering agree, individually and collectively, they will neither give nor receive unpermitted aid in examinations or other course work that is to be used by the instructor as a basis of grading.