Fact Sheet

- **Instructor:** Prof. Abdullah Muzahid, email: abdullah.muzahid@utsa.edu, tel: (210)-458-8734, office: FLN 3.02.07, office hours: Monday & Wednesday 5.30-7.00PM.

- **Teaching Assistants:** TBA, email TBA, office hours: TBA, other times by arrangement, Office: TBA.

- **Class:** Mon and Wed, 7.30-8.45 PM in FLN 3.02.07.

- **Prerequisites:** CS 3733 (Operating Systems), CS 3853 (Computer Architecture).

- **Text:** "Computer Architecture: A Quantitative Approach", fifth edition, by Hennessy and Patterson. We will follow this book in class.

- **Format:** I plan to use slides in class. You can access the slides from the course web site. I will try to put the slides in advance in the web site.

- **Assignments:** There will be 1-2 machine problems (MP) and 3-4 written homeworks. See the schedule for assignment turn-in dates.

  Note that the assignments have only a modest weight toward the final grade. However, doing the assignments is a good way to prepare for the exams.

- **Exams:** There will be a midterm and a final exam. The final is comprehensive. Both exams are closed book and closed notes. Bring a calculator. The midterm will be in class.

- **Grading:** Final grades will be computed based on the following: midterm 25%, final 40%, homeworks & MPs 15%, projects 10%, class attendance & participation 10%. **No late assignments will be accepted without prior arrangement.** Class participation could be in the form of **pop quiz.** For assignments, it is legitimate for students to discuss possible interpretations of the assignment. However, once solution or program design has begun, all collaboration must cease. If students are found to have collaborated excessively, all involved will receive a grade of 0 for that assignment. **Any kind of cheating will be harshly punished.**

- **Goal of the Course:** This is an advanced course in computer architecture that moves fast. You should not fall behind in your Hennessy and Patterson readings because you will find it difficult to catch up.

  It is assumed that you already understand the basics of computer architecture, including:

  1. Computer elements (logic, FSM, memory)
  2. Assembly language programming (addressing, control transfers, procedure linkage)
  3. Pipelines and pipelined instruction execution (instruction fetch, decode, execute, store..)
4. Basic machine organization (datapath, control, busses, memory interface, interrupts)

If you feel that your background is lacking in any of these areas, please consult an introductory computer architecture textbook such as "Computer Organization and Design: The Hardware / Software Interface", by Patterson and Hennessy or "Structured Computer Organization" by Tanenbaum.

By the end of the course, you are expected to have sufficient knowledge on the following topics:

1. Pipelining and instruction level parallelism
2. Memory hierarchy
3. Multiprocessors and thread level parallelism
4. Introductory knowledge of data level parallelism and warehouse scale computers