0. Goals and Course Description

The goals of the course are: to understand how software is run on a processor; to gain ability to write an efficient program in assembly language; to understand a simple processor design; and to gain knowledge about important components of a computer system.

In this course, we study topics dealing with both hardware and software. Taking MIPS as an example, we will study processor organization (hardware) and write programs (software) in assembly language for it. We will also study relevant performance metrics so that we can evaluate different hardware and software implementations. Several tools including the MARS simulator will be used in this course.

1. Textbook and Course Materials


   Course materials will be distributed via course web page (www.cs.pitt.edu/~cho/cs0447/).

2. Prerequisites

   CS 0445 – Data Structures (can be taken concurrently with 447)

3. Instructor

   Sangyeun Cho (cho@cs.pitt.edu, 412-383-7018)
   Office hours: M/Th 2pm ~ 4pm @5407 SENSQ

4. TA

   Kiyeon Lee (lee@cs.pitt.edu)
   Office hours: M 4pm~6pm, W 2pm~3pm @5802 SENSQ

5. Lecture/Lab Hours and Classroom

   Lecture: TH 4pm ~ 5:15pm @5129 SENSQ
   Lab: F 11am or 1pm (depending on your section) @5505 SENSQ
6. Student Evaluation

You will earn “points” in each assignment or exam.

- 11 labs 10 points each (110 points total)
- 4 homework assignment (HW) 15 points each (60 points total)
- 3 programming assignments (PA) 20 points each (60 points total)
- 2 MID-TERM exams 20 points each (40 points total)
- FINAL exam 30 points

Full score = 300 points

Your final grade will be based on the following (grade-score) table and your earned points:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>280 – 300</td>
</tr>
<tr>
<td>A</td>
<td>270 – 279</td>
</tr>
<tr>
<td>A-</td>
<td>260 – 269</td>
</tr>
<tr>
<td>B+</td>
<td>250 – 259</td>
</tr>
<tr>
<td>B</td>
<td>240 – 249</td>
</tr>
<tr>
<td>B-</td>
<td>230 – 239</td>
</tr>
<tr>
<td>C+</td>
<td>220 – 229</td>
</tr>
<tr>
<td>C</td>
<td>210 – 219</td>
</tr>
<tr>
<td>C-</td>
<td>200 – 209</td>
</tr>
<tr>
<td>D+</td>
<td>190 – 199</td>
</tr>
<tr>
<td>D</td>
<td>180 – 189</td>
</tr>
<tr>
<td>D-</td>
<td>170 – 179</td>
</tr>
</tbody>
</table>

For instance, if you earned 265 points total, your letter grade will be A-.

7. Other Policies

- Late submission of homework or programming assignment will NOT be accepted.
- Plagiarism and cheating are strictly prohibited. Each student is expected to do his/her own work. Offense of this rule will result in a “0” in a particular PA, HW, or exam. The second offense will lead to an automatic “F” for the course and the offender may be subject to stronger actions.
- Students are expected to be present for all exams. Make-up exams will only be given in the event of an emergency and only if the instructor is informed in advance.
- Students are expected to be present at all labs and submit lab assignments on time.
- Hope that we learn a lot in this course!

8. Students with disabilities

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Office of Disability Resources and Services (DRS), 216 William Pitt Union, 412-648-7890/412-383-7355 (TTY), as early as possible in the term. DRS will verify your disability and determine reasonable accommodation for this course.