Course: CSC 317/317L Computer Organization & Architecture (4 credits)  
Prerequisites: CSC 314 and CENG 244.  
Room: McLaury 310  
Time: MWF 1:00 p.m. - 1:50 p.m.  
Website: http://www.mcs.sdsmt.edu/zzong/csc317

Instructor: Dr. Zong  
Office: McLaury 203C  
Phone: 605-394-6034  
Email: Ziliang.Zong@sdsmt.edu  
Office Hours: Monday: 3:00 – 5:00 p.m.  
Wednesday: 3:00 – 5:00 p.m.

Course Description

A course in computer organization with emphasis on the hierarchical structure of computer systems. Topics include fundamentals of computer design, instruction-level parallelism, pipelining, multiprocessors and thread-level parallelism, memory hierarchy, and storage systems. (Topics may slightly change.)


Course Evaluation:

Grades for this course will be based on:

1) Quizzes  5%
2) Project 1 10%
3) Project 2 15%
4) Project 3 20%
5) Exam 1 15%
6) Exam 2 15%
7) Final Exam 20%

and will be assigned as follows:

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<tr>
<th>Grade</th>
<th>Percentage</th>
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<tr>
<td>A</td>
<td>90 — 100</td>
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<td>B</td>
<td>80 — 89</td>
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<td>C</td>
<td>70 — 79</td>
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<tr>
<td>D</td>
<td>60 — 69</td>
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<tr>
<td>F</td>
<td>&lt; 60</td>
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Note: For group projects, evaluations from your team about your performance will play an important role when I assign your grade.

Topics

The following link shows an approximate guide to the topics we will cover and the amount of time that will be allocated to each topic. The topics or the time on each may vary slightly to accommodate the class.

http://www.mcs.sdsmt.edu/zzong/csc317/schedule.html

Objectives

The goal of this course is to help students develop competence in analysis, design, and evaluation of new technologies in computer architecture. This course serves students in two ways. For those who will continue in computer architecture, it lays foundation of state-of-the-art techniques implemented in current and future high-performance microprocessors, multiprocessors, storage systems and interconnection networks. It helps the students develop understanding of engineering trade-offs in the design of computers. For those students not continuing in computer architecture, it helps them to gain understanding of fundamental architectural principles and the techniques in today’s computers and their interplay with software.

Student Learning Outcomes

Upon completion of this course, students should, at a minimum able to:

1. Obtain understanding of fundamental architectural principles
2. Measure the performance of modern microprocessor designs
3. Analyze simulation data to evaluate designs
4. Construct alternative computer architecture designs
5. Acquire knowledge about state-of-the-art CPU, memory and storage systems

Attendance

If you do not attend class, it gives the instructor no opportunity to teach you the course material. Good attendance is particularly important in this class. Attendance is required for all class sessions.

Make-up Policy and Late Policy

There is NO “late policy” for projects. All projects must be turned in by the due dates; otherwise they will not be accepted. NO Make-up Quizzes so be sure to attend each class. Make-up examinations will be given only if you contact me ONE WEEK before the examination and you must provide a legitimate reason. There will be NO make-up exams without a verified excuse.

Academic Integrity

Although you may exchange ideas with your classmates, you must complete these assignments by yourself (or with members of your team, in the case of group projects). In particular, it is forbidden under any circumstances whatsoever to exchange source code with your classmates. COPYING CODE IS A SERIOUS INFRINGEMENT UPON THE SDSM&T ACADEMIC INTEGRITY POLICY, AND
WILL BE TREATED SERIOUSLY. Academic integrity is further discussed in the Academic Integrity policy statement on the course Website.

ADA Statement

Students with special needs or requiring special accommodations should contact the instructor and/or the campus ADA coordinator, Jolie McCoy, at 394-1924 at the earliest opportunity.

Freedom in Learning Statement

Under Board of Regents and University policy student academic performance may be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Students should be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. Students who believe that an academic evaluation reflects prejudiced or capricious consideration of student opinions or conduct unrelated to academic standards should contact the dean of the college which offers the class to initiate a review of the evaluation.

Electronic Devices Policy

Please turn off your cell phone before class starts. No text messaging in class. No headphones. It is allowed to use a laptop in class only for purposes of note taking and in-class programming practice. No other use of any other electronic/computer media is allowed during class time.