Course Syllabus: CSCE 430/830 (Spring 2018) Computer Architecture

Schedule: M/W/F 9:30AM-10:20AM      Location: AVH-118 City Campus
Course Website: http://cse.unl.edu/~swei/csce430_830
Instructor: Dr. Sheng Wei (http://cse.unl.edu/~swei)
Instructor Email: shengwei@unl.edu
Instructor Office Hours: Mon/Wed 10:30AM-11:30AM, Fri 11:00-noon, or by appointment
                             106 Schorr Center
TA: N/A

Course Description/Objectives/Topics:
This is an undergraduate/graduate level course on computer architecture, which aims to deliver both basic knowledge and advanced research on computer architecture design, optimization, and performance evaluation. The course topics include but not limited to the following: quantitative performance evaluation of computer systems/architecture, design and optimization of memory hierarchy with caches, instruction-level parallelism, and data-level parallelism.

Textbooks:

Evaluation Criteria:
- 4 In-class quizzes (3 best out of the 4 will be counted. No make-up quizzes will be available.) (20%)
- In-class Midterm Exam (20%)
- Final Exam (25%)
- Course Project (35%)
For detailed policies of each category, please refer to the instructor’s presentation slides during the first week of class (available on the course website).

Important Dates:
In-Class Quizzes: 01/24/2018, 02/19/2018, 04/02/2018, 04/18/2018
In-Class Midterm Exam: 03/07/2018
Final Exam: Wednesday, 05/02/2018, 10:00AM to noon (Central Time)
In-Class Project Presentations: 04/24/2018, 04/26/2018, 04/28/2018
Project Report Due: 05/04/2018 at 11:59PM (Central Time)

Course Outline:
- Weeks 1~2: Fundamentals of Quantitative Design & Analysis (Chapter 1)
- Weeks 3~6: Memory Hierarchy Design (Chapter 2 & Appendix B)
- Weeks 7~11: Instruction-level Parallelism and Its Exploitation (Chapter 3 & Appendix C)
- Weeks 12~14: Data-Level Parallelism in Vector, SIMD, and GPU Architectures (Chapter 4)
- Week 15: Project Presentations

For detailed weekly schedule, please refer to the course website.

**Accommodations of Students with Disabilities:**

Students with disabilities are encouraged to contact the instructor for a confidential discussion of their individual needs for academic accommodation. This includes students with mental health disabilities like depression and anxiety. It is the policy of the University of Nebraska-Lincoln to provide individualized accommodations to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office, 232 Canfield Administration, 472-3787.

**Anonymous Contact Form:**

The CSE Department has an anonymous contact form (http://cse.unl.edu/contact-form) that you may use to voice your concerns about any problems in the course or department if you do not wish to be identified.

**Email Policy:**

It is CSE Department policy that all students in CSE courses are expected to regularly check their email so they do not miss important announcements.

**Student Resource:**

The Student Resource Center is in Avery 12: http://cse.unl.edu/src

**Academic Integrity:**

All homework assignments, quizzes, exams, etc. must be your own work. No direct collaboration with fellow students, past or current, is allowed unless otherwise stated. The Computer Science & Engineering department has an Academic Integrity Policy (http://cse.unl.edu/academic-integrity-policy). All students enrolled in any computer science course are bound by this policy. You are expected to read, understand, and follow this policy. Violations will be dealt with on a case by case basis and may result in a failing assignment or a failing grade for the course itself.