ECE 875, Computer Sys in Data Analytics, Spring, 2024

(Computer Systems in Processing Big Data for Effective Decision-Making)

- Instructor: Abu Asaduzzaman (DRZ)
- Department: Electrical and Computer Engineering (ECE)
- Office Location: 303 Wallace Hall (WH) building
- Telephone: +1-316-978-5261
- Email: abu.asaduzzaman@wichita.edu
- Preferred Method of Contact: In person during student/office hours or via email
- Student/Office Hours: Tuesday & Thursday 12:30-01:30 PM
- Classroom, Day/Time: 226JB, Tuesday & Thursday 5:35-6:50 PM
- Prerequisites: ECE 694 or instructor's consent
- Teaching Assistant (TA): Grading – To Be Decided (TBD)
- TA Contacts: Grading – tbd@shockers.wichita.edu

How to use this syllabus

This syllabus provides you with information specific to this course, and it also provides

http://webs.wichita.edu/inaudit/ch8_05.htm

and the Student Academic Honesty policy http://webs.wichita.edu/inaudit/ch2_17.htm.

https://www.wichita.edu/about/student_conduct/ai.php

If there are homework assignments (HWAs) in this course, each HWA will be an individual assignment (unless otherwise stated). Students can discuss with others, but they should not write the solution together; one submission (wording/coding) should be reasonably different from other submissions. “Collaboration is good, cheating is not!” There will be severe consequences for academic dishonesty. Cheating (such as copying word-for-word from other sources) in any test will automatically result a ‘Fail’ grade in this course; this grading policy applies to all parties involved (including the ones who help).

Course Description

Studies modern computer systems and their roles in data science and computational methodologies. Explores issues for efficient processing of big data to make effective decisions

Grading Scale

WSU uses a +/- grading scale for final grades and to calculate grade point averages. In this class, grades are assigned according to the following chart. (Other classes might assign grades differently: Be sure to understand the different grading scales in all of your classes.)

Points/Percentage	Letter Grade	Grade Points

Feedback on Assignments:

As soon as possible after the due date including the late submission date/time. Answer key will be discussed in lecture sessions and/or shared via Blackboard.

Late Assignments

For homework assignments, late submissions will not be accepted after five days from the original due date/time. Homework scores will not be considered for letter grades. Exceptions include documented emergency situations and prior consents.

Missed Tests and Labs/Projects

Makeup for missed tests (Quiz and Exam) and Labs/Projects) will be given only when there is a genuine reason, with clear proof. It is students' responsibility to provide the proof; if the reason for missing a test is illness, a doctor's note will be required. Students should contact the instructor before any makeup test.

Teaching Assistants

Grading TA:

TBD <tbd@shockers.wichita.edu>

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- Names and Pronouns
- Disability Services
- Title IX
- Concealed Carry Policy

Students with Disabilities

A disability is something that affects a major life activity. These life activities include, but are not limited to, learning, walking, breathing, hearing, and seeing, in addition to many other physical, sensory functions, and psychological disabilities.

If you are a student with a disability, or believe you might have a disability, which requires accommodations, please contact the Office of Disability Services (ODS) www.wichita.edu/ods to discuss reasonable and appropriate accommodations and eligibility requirements. It is the University's goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability ODS will review your concerns and determine, with you, what academic accommodations are necessary and appropriate for you. For example, adaptions of teaching methods, class materials or testing may be made on a case-by

programs) will be provided via lectures. The main purpose of Beoshock is to provide students a HPC platform so that they can write/debug/run parallel programs for assignments and projects. If possible, we may meet in the Computer Architecture and Parallel Programming Laboratory (CAPPLab) in 312 Wallace Hall for additional help.

Tentative Brief List of Topics to Cover

Introduction and Motivation

- Why/How/What Modern Computer Systems?

Modern Computer Systems

- Processors, Processes, Parallelism (ILP, PLP, DLP, TLP, etc.)
- Memory Hierarchy: Cache, Primary, and Secondary Memory
- Performance and Power Analysis

Course Project

- Technical Reading, Technical Writing, and Technical Presentation
- Teamwork: Proposal (defense and write-up), Presentation , and Report
- Individual: Project related Article presentation

Computational Data Analytics

- Parallel/Distributed Systems: Computations for Big Data
- Computers for Calculated Decision-Making
- Computers for Artificial Intelligence (AI) / Machine Learning (ML)

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