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Databases & Knowledge Management

Computer Science 445

Instructor: Dr. Nina Peterson

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Credits: 4

Meeting Time: T/TH 10:30am – 11:45am

Office Hours: Monday 1:00-2:00pm, Tuesday 1:00-2:00pm, Wednesday 1:00 – 2:00pm and by appointment

Office: MLH 337

Prerequisite: A grade of 'C' or better in CS 225 and a grade of 'C' or better in MATH 147 (or equivalent placement score).

# Text: Data Science Foundations Tools and Techniques: Core Skills for Quantitative Analysis with R and Git

Course Description:

Covers the fundamental concepts required for the design and implementation of database applications and their underlying Database management Systems (DBMS). Topics include: principles and architectures, the relational data model, normalization, conceptual data modeling, design and implementation of database-based applications, and DBMS design issues and approaches.

Learning Outcomes:

Upon successful completion of this course, you should be able to demonstrate the following competencies:

* master R language syntax
* master R language programming concepts
* master R language data structures
* manage and collaborate on projects efficiently with GitHub
* load, format, explore and restructure data for successful analysis
* examine, analyze, and visualize data
* produce visualizations that are interactive, accurate, and intuitive

Grading:

Your grade will be determined according to the following weights:

Labs/Homework/Active Learnings 20%

Project(s)/Presentation 30%

Midterm Exam 25%

Final Exam 25%

Labs/Homework: All labs/homework assignments are must be submitted electronically through Canvas and must be timestamped prior to the due date/time. Class time will not be spent on homework. Your lowest homework/lab grade will be dropped. No late homework/lab assignments will be accepted.

Project(s)/Presentation: Each team will submit projects that will be presented (by the team).

Midterm/Final Exam: The midterm and final exam are cumulative. No makeup exams will be given.

Grading Scale: Final grades will be given according to the following scale:

A ≥ 92% A- ≥ 90% B+ ≥ 87% B ≥ 83% B- ≥ 80%

C+ ≥ 77% C ≥ 73% C ≥ 70% D ≥ 60% F ‹ 60%

Policy on Incomplete Grades: In order for an incomplete grade to be considered, at least 60% of the total course work required for the semester must be complete with a minimum grade of a C.

Academic Dishonesty: Academic dishonesty in any form will not be tolerated. Academic dishonesty includes, but is not limited to:

Cheating: Using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term “academic exercise” includes all forms of work submitted for a grade earned in a course that generates credit hours.

Fabrication: Falsification or invention of any information or the source of any information in an academic exercise.

Collusion: Intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty.

Plagiarism: Copying or imitating the language, ideas, and thoughts of another author and passing off the same as one’s original work.

If I suspect academic dishonesty, I will withhold a grade until we have discussed the circumstances. Any work that I determine is dishonest will receive an automatic F and you may receive an F for the course. I will also forward a report of the incident to the Student Judicial Officer for prosecution in accordance with the Student Code of Conduct.

If you feel there is any physical or mental challenge to you that impedes your ability to participate in the class, please see me so we can remove or correct the problem. If you have any special medical needs if the building had to be quickly evacuated, also please inform me. Assistance with accommodation can also be found at the Office of Student Life, Room 111, Reid Centennial Hall.