Data Mining

INSTRUCTOR INFORMATION

Instructor: Dr. Cen Li
Office: KOM 301C
Phone: (615) 904-8168
E-mail: Cen.Li@mtsu.edu
URL: http://www.cs.mtsu.edu/~cen
Office Hours: Tue, Wed, Thur, 10:30 am – 12:00 pm
                Other times by appointment.
                All office hours will be conducted via Zoom meetings.

COURSE INFORMATION

Description

This course introduces the students to the fundamental concepts, theory, techniques and applications of data mining. Students gain hands-on experience perform data mining using existing software as well as develop their own software to mine real world data sets.

Objectives and Learning Outcomes

The main objectives of the course include:

Through this course, students develop an understanding of:

- o Basic data mining techniques including data preparation, regression, classification, clustering, Artificial Neural Networks (ANNs) and Convolution Neural Networks (CNNs) learning methods, association rule discovery, feature selection, dimensionality reduction, text mining, trend analysis, and statistical modeling approaches;
- o Students will be able to apply different data mining tools on real world data to discover potentially useful patterns.

Prerequisites and Co-requisites

CSCI 5350 or consent of instructor.

COURSE MATERIALS

Textbooks

- Data Mining: Concepts and Techniques, Jiawei Han, Micheline Kamber, and Jian Pei. The Morgan Kaufmann Series in Data Management Systems. ISBN-10: 0123814790.
- Reference books:
    - Data Mining: Practical Machine Learning Tools and Techniques (Third Edition), Ian H. Witten, Eibe Frank, Mark A. Hall, Morgan Kaufmann, Jan 2011. ISBN 978-0-12-374856-0.
    - Other papers and online resources to be announced in class

Course Web Page is created at http://www.cs.mtsu.edu/~cen/6350/index.htm. All lecture notes, handouts, assignments, test reviews, and discussions, will be posted on the course web page. Check the page often for updates.

Class Attendance:

Attendance is required and absences do not excuse one from class responsibilities.

- MTSU Administration requires that instructors complete an attendance report for each course each semester. Regular class attendance is required and will be monitored by Zoom class attendance, the D2L system report; and timely submission of course assignments. Zoom class attendance will be taken once at the beginning of the class and once at the end of the class.
- During Zoom lectures, students are encouraged to have their videos turned on. Student active participation with discussions and questions are encouraged.
- If for some unavoidable reason you must miss class, you should obtain the class notes, handouts, and assignments from the classmates or from the course web page. The zoom lectures will be recorded and posted in the D2L course page under the tab "Videos".

Academic Integrity/Misconduct

All work for this class is to be done on an individual basis, except for the final group project. All code and homework assignment solutions must be original. *If it is determined that a student has collaborated on an assignment with others, for all the parties involved, the first offense will result in a grade of zero for the assignment/test, and the second offense will result in a grade "F" for the class.* Students guilty of plagiarism will be immediately reported to the Vice Provost for Academic Affairs.

ASSESSMENT AND GRADING

Grading Procedure

- **Written assignments (30%)** need to be worked on individually. No late homework will be accepted.

- **Programming assignments (40%)** Programming projects will be assigned with explicit due dates and deadline. Projects turned in any time after the due date and before the deadline is deducted 20 points.

- **Term project (30%):** Term project includes survey of the background material, written project proposal, implementation and testing, and class presentations. Term projects may be worked on in teams of two.

All assignments must be submitted to the D2L Dropbox and **will not be accepted via email.**

Grading Scale

Letter grades will be determined using a standard percentage point evaluation as outlined below:

A	90%-100%		
B+	87%-89%	B	80%-86%
C+	77%-79%	C	70%-76%
D+	67%-69%	D	60%-66%
F	0%-59%		

Incomplete Grades

Incomplete grades are given rarely and only in extenuating circumstances. Page 56 of the MTSU Undergraduate Catalog states: "The grade I indicates that the student has not completed all course requirements because of illness or other uncontrollable circumstances, especially those which occur toward the end of the term. Mere failure to make up work or turn in required work on time does not provide the basis for the grade of "I" unless extenuating circumstances noted above are present for reasons acceptable to the instructor." Please refer to the Undergraduate catalog for the complete Incomplete Grade Policy.

I am True Blue

As a member of this diverse community, I am a valuable contributor to its progress and success. I am engaged in the life of this community. I am a recipient and a giver. I am a listener and a speaker. I am honest in word and deed. I am committed to reason, not violence. I am a learner now and forever. I am a BLUE RAIDER. True Blue!

STUDENT RESOURCES

Technical Support

D2L Resources are available to MTSU Online Students. You can also find help for the basic D2L functions used most often directly in your D2L course under the D2L Help for Students module.

Students with Disabilities

Middle Tennessee State University is committed to campus access in accordance with Title II of the Americans with Disabilities Act and Section 504 of the Vocational Rehabilitation Act of 1973. Any student interested in reasonable accommodations can consult the Disability & Access Center (DAC) website and/or contact the DAC for assistance at 615-898-2783 or DAC Email

Grade Appeals

University Policy 313, Student Grade Appeals, provides an avenue for MTSU students to appeal a final course grade in cases in which the student alleges that unethical or unprofessional actions by the instructor and/or grading inequities improperly impacted the final grade.

Title IX

Students who believe they have been harassed, discriminated against or been the victim of sexual assault, dating violence, domestic violence or stalking should contact a Title IX/Deputy Coordinator at 615-898- 2185 or 615-898-2750 for assistance or review MTSU's Title IX website for resources.

MTSU faculty are concerned about the well-being and development of our students and are legally obligated to share reports of sexual assault, dating violence, domestic violence and stalking with the University's Title IX coordinator to help ensure student's safety and welfare. Please refer to MTSU's Title IX website or contact information and details.

Hope (Lottery) Scholarship Information

Do you have a lottery scholarship? To retain the Tennessee Education Lottery Scholarship

eligibility, you must earn a cumulative TELS GPA of 2.75 after 24 and 48 attempted hours and a cumulative TELS GPA of 3.0 thereafter. A grade of C, D, F, FA, or I in this class may negatively impact TELS eligibility.

If you drop this class, withdraw, or if you stop attending this class you may lose eligibility for your lottery scholarship, and you may not be able to regain eligibility at a later time.

For additional Lottery rules, please refer to your Lottery Statement of Understanding form or contact your MT One Stop Enrollment Counselor.