

University of North Texas  
CSCE5380, Spring 2020  
Data Mining

---

Meetings	Monday and Wednesday, 2:30PM–3:50PM, NTDP K120
Instructor	Dr. Eduardo Blanco, <a href="mailto:eduardo.blanco@unt.edu">eduardo.blanco@unt.edu</a> Office Hours: Wednesday 4:00PM–6:00PM, NTDP 297C
TA	Chengyuan Zhuang <a href="mailto:ChengyuanZhuang@my.unt.edu">ChengyuanZhuang@my.unt.edu</a> Tuesday and Thursday 1:00PM–2:00PM

---

### Textbook

Pang-Ning Tan, Michael Steinbach, Anuj Karpatne and Vipin Kumar. 2018. Introduction to Data Mining. Pearson.

Textbook website: <https://www-users.cs.umn.edu/~kumar001/dmbook/index.php#new>, or the first edition: <https://www-users.cs.umn.edu/~kumar001/dmbook/firsted.php>

### Course Contents

This course will introduce the principles of Data Mining. Topics include:

- Data: types, quality, preprocessing and exploration
- Classification:
  - model overfitting
  - evaluation
  - decision trees
  - rule-based classifiers
  - nearest-neighbors classifiers
  - bayesian classifiers
  - artificial neural networks
  - ensemble methods
- Clustering:
  - k-means
  - agglomerative hierarchical clustering
  - evaluation
  - advance algorithms
- Association Analysis
  - frequent itemset generation
  - rule generation
  - compact representation of frequent itemsets
  - sequential patterns
  - subgraph patterns

You are expected to check <https://unt.instructure.com/> often for course material, homework assignments and grades.

### Prerequisites

CSCE 3110: Data Structures and Algorithms.

## Grading

Homework	50%
Quizzes	10%
Midterm	20%
Final exam	20%

- There will be five homework assignments. Homework is due at the beginning of class at least a week after it is assigned. Homework assignments will include both written and programming exercises. Some assignments may consist of 2 parts. You will need to program on your own to complete the homeworks.

As a rule, late homework will not be accepted.

- There will be five quizzes. Quiz grade will be the average of the four highest-graded quizzes.
- The midterm exam will be during class, most likely on Thursday March 4, 2020. The date is subject to change.
- The final exam will be wither during the last day of class or May 4 1:30PM–3:30PM. The date is subject to change.

## Academic Integrity

Academic Integrity is defined in the UNT Policy on Student Standards for Academic Integrity. Any suspected case of Academic Dishonesty will be handled in accordance with the University Policy and procedures. Possible academic penalties range from a verbal or written admonition to a grade of F in the course. Further sanctions may apply to incidents involving major violations. You will find the policy and procedures at: <http://vpaa.unt.edu/academic-integrity.htm>.

Each topic discussed in class will have associated homework. Students may discuss homework problems and approaches with each other, but must write their solutions individually. Students may not copy homework from any source, including other students or the internet. No collaboration is allowed in quizzes and exams.

## Religious Observance

In accordance with state law, a Student absent due to the observance of a religious holiday may take examinations or complete assignments scheduled for the days missed, including those missed for travel, within a reasonable time after the absence. Students should notify the instructor in each course of the date of the anticipated absence as early in the semester as possible. Only holidays or holy days observed by a religion whose place of worship is exempt from property taxation under Section 11.20 of the Tax Code may be included. A student who is excused under this provision may not be penalized for the absence, but the instructor may appropriately respond if the student fails satisfactorily to complete the assignment or examination. (<http://policy.unt.edu/policy/15-2-5>).

## Disability Accommodations

The University of North Texas makes reasonable academic reasonable accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time, however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable

accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Office of Disability Accommodation website at <http://www.unt.edu/oda>. You may also contact them by phone at 940.565.4323.