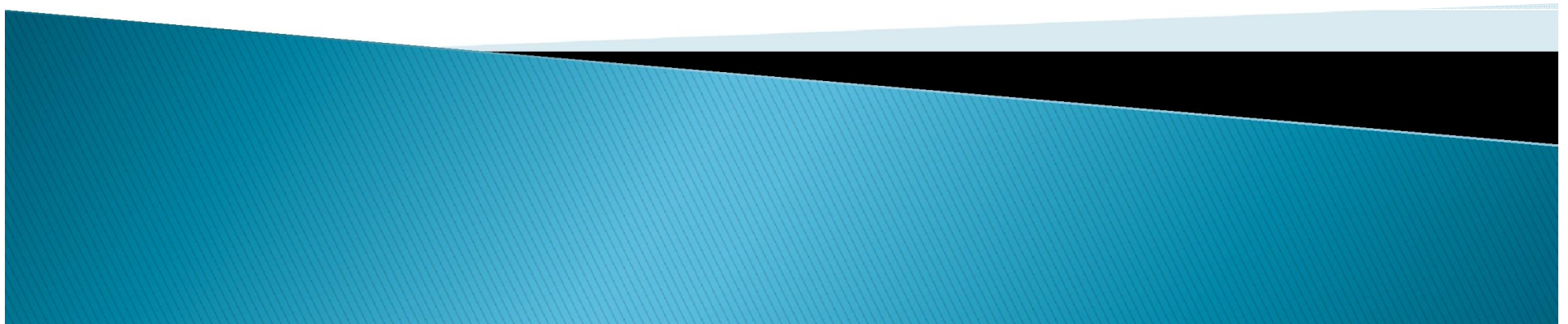# Foundations of Data Mining Course Details

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Course Syllabus

- ❑ Introduction to DM
  - o Motivations and Challenges
- ❑ Types of Data
- ❑ Data pre-processing
  - o Data cleaning, integration, transformation, reduction, discretization
- ❑ Data Visualization
- ❑ Association rules
- ❑ Clustering
- ❑ Classification
  - o Decision Tree, Naïve Bayes, Neural networks (MLP)
- ❑ Anomaly detection
- ❑ Recommender systems
- ❑ Students' presentations

Course Evaluation

- Midterm (20-25%)
- Final (35-40%)
- Homework (20-25%)
- Final Project (15-20%)
- Presentation (5%)

میان ترم (۲۰ تا ۲۵٪)
پایان ترم (۳۵ تا ۴۰٪)
تمرینات (۲۰ تا ۲۵٪)*
پروژه (۱۵ تا ۲۰٪)
ارائه (۵٪)

* کسر ۲۵ درصد نمره بعد از تحویل با تاخیرِ حداکثر ۲۴ ساعته

* تمرینات (+ پروژه) مشابه = نمره صفر برای همه طرفهای درگیر

مراجع

- Jiawei Han, Micheline Kamber and Jian Pei, Data Mining: Concepts and Techniques (3rd ed.), 2012.

- Tom Mitchell, Machine Learning, McGraw-Hill, 1997.

- Online Lectures (like Coursera): Ng, Lavrenko, Ihler, …

- Christopher Bishop, Pattern Recognition and Machine Learning, Springer, 2006.

- Some recent or seminal papers.