Basic Course Information

- Instructor: Haibin Ling (hbling AT temple.edu, Wachman Hall, Room 305)
  Office Hours: 13:30-15:30 Friday
- TA: Peiyi Li (tuc73347 AT temple.edu)
  Office Hours: 10-12 Monday, Wachman Hall 415
- Lecture Time: 15:30-16:50 Monday and Friday, TTLMAN 0401A
- Lab: 15:00-16:50 Wednesday, TTLMAN Wachman 104
- Credits: 4

Description: The goal is to introduce students to hot and extremely useful topics in computational statistics with hands on experience. It provides a modern approach to probability and computational statistics with applications in data mining.

Prerequisites: CIS 1068 (or CIS 1073) and Math 1041 (or Math 1031) with grades of C or better

Textbook


Course Topics

- Introduction
- Probability Concepts
- Sampling Concepts
- Generating Random Variables
- Exploratory Data Analysis
- Finding Structure in Data
- Monte Carlo Methods
- Data Partitioning
- Probability Density Estimation
- Supervised Learning
- Unsupervised Learning
- Parametric Models
- Nonparametric Models
- Markov Chain Monte Carlo Methods

Exams, Project and Grading

- Homework: 10%
- Lab assignment: 10%
- Class participation: 5%
- Quizzes: 20%
- Midterm: 25%
- Final: 30%

Homework: Late homework will not be accepted.

Class attendance: Class attendance is expected, and may be recorded from time to time. Absences for legitimate professional activities and illnesses are acceptable only if prior notice is given to the instructor by e-mail or phone. Scheduling conflicts with your work, extra-curricular activities, or any other such activities is not a valid excuse. Although attendance is not a specific part of the course evaluation it has a
direct effect on class participation. If you are not in class, you cannot participate. Class participation means that you attend class regularly and have completed your assignments. It means that you ask relevant questions and make informed comments in class. Class participation will contribute to the final grade.

**Quizzes**: There will be about ten 20-30 minute quizzes based on the homework assignment for the previous week. There will be no make up quizzes; however, you will be allowed to drop your lowest two quiz grades. Each quiz will be worth 20pts. You may bring one letter size page filled with your own notes to each quiz.

**Exams**: If you miss a midterm for an emergency [as agreed ahead of time with the instructor], there will be no makeup exam: the other exams will become proportionally more important. If you miss any exam without prior agreement, and without definitive proof as to the reasons, you will get a zero. If you miss the final and do not make alternative arrangements before grades are turned in you will be graded F.

**Honor Code**
- All work submitted for credit must be your own.
- You may discuss the homework problems with your classmates, the teaching assistant, and the instructor. You must acknowledge the people with whom you discussed your work, and you must write up your own solutions and code. Any written sources (apart from the text) used must also be acknowledged; however, you may not consult any solutions from previous years’ assignments whether they are student or faculty generated.
- Plagiarism will be handled with severe measures.
- Please ask if you have any questions about the Honor Code. Violations of the honor code will be treated seriously. Please check the [Temple University policy on Plagiarism and Academic Cheating](https://www.temple.edu/academic/integrity/policies-plagiarism/index.html).

**Disabilities**
I encourage students with disabilities, including "invisible" disabilities such as chronic diseases and learning disabilities, to discuss with us any appropriate accommodations that we might make on their behalf. Student must provide me with a note from the office of Disability Resources and Services at in 100 Ritter Annex, 215-204-1280, regarding their disability.