Course Information of MAT-258A. Spring Quarter 2018

- Lecture: MWF 2:10pm-3pm. Olson Hall 207.
- Instructor: Prof. Shiqian Ma. Office hours: M 3:30-5pm. Office: MSB3141. Email: sqma@math.ucdavis.edu
- TA: Will Wright. Office hours: TWR 10-11am. Office: MSB2131. Email: willwright@math.ucdavis.edu
- Course Website: https://www.math.ucdavis.edu/~sqma/MAT258A.html
- Coverage: This course mainly covers algorithms for continuous convex and nonlinear optimization problems. Algorithms covered include gradient method, quasi-Newton method, proximal gradient method, Nesterov’s accelerated gradient method, augmented Lagrangian method, alternating direction method of multipliers, block coordinate descent method, stochastic gradient descent method etc. Applications in data sciences will also be discussed.
- Textbook: There is no mandatory textbook. The following books are (optional) reference books for this course:
  - D. Bertsekas, Nonlinear Programming, Athena Scientific, 1999
- Prerequisites: There is no prerequisites, but you should have working knowledge on calculus, linear algebra and probability.
- Grading: Four homework assignments: 15% each; Final exam 40%.
  - Homework: The four homework assignments include both regular questions (writing proofs etc.) and writing computer programs. For programming, you can use Matlab, Python, C or C++. Make sure you write instructions how to run your codes. You can discuss homework questions with others, but you should write the solutions by yourself. Late homework submissions are not accepted. No exceptions!!
  - Final exam: It will be a take-home final exam. You will be given 24 hours to finish it. You are not allowed to seek help on exam questions by any means. The exam questions will be released on June 8th 8pm and will be due on June 9th 8pm. Plan your time well ahead. Late submissions of final exam are not accepted. No exceptions!!
- Private Conversations: Please be courteous to your fellow students. Keep your private conversations out of the classroom.
- Tardiness: Please be courteous to your fellow students. Avoid tardiness at all costs.