

FALL 2018 MATH 4211/6211 Optimization

Instructor: Dr. Xiaojing Ye, xye@gsu.edu, <https://math.gsu.edu/xye>, Office: 25 Park Place, 1436

Office Hours: Monday 10:30–11:30AM, Wednesday 9:30–10:30AM

Class time and location: MW 2:00–3:15PM, 227 Langdale Hall

Textbook: *Introduction to Optimization*, 4th edition, Edwin K. P. Chong and Stanislaw H. Zak, Wiley.

Prerequisites: Either MATH 3030 or both MATH 2641 (Formerly MATH 3435) and MATH 2215 with grades of C or higher. The ability to program in a high-level language such as MATLAB or Python.

Course Description: Lagrange multipliers, gradient methods (steepest descent), search techniques, variational methods and control problems; varying other topics such as dynamic programming, nonlinear programming.

Quizzes: There will be 6 quizzes (2 pts each) during the semester.

Homework: There will be regular ungraded homework assignments for which solutions will be provided. At several points in the semester there will also be graded homework. In some cases the graded homework assignments will involve implementing and using the various optimization algorithms from class or looking in greater detail at the properties of those algorithms. All graded homework must be completely your own work; they are not group projects. Any sources you use must be cited. **Late homework will not be graded.**

Exams: There are two midterm exams and a cumulative final exam. Midterm exams (20 pts each) are in class on **Sep. 19** and **Oct. 24**. Final exam (30 pts) is on **Dec. 5, 1:30-3:30PM**. Some problems in the exams for graduate students will be different.

Makeup Policy: Exams may be made up only in the event of a suitable verifiable excuse (e.g., a doctor's note is necessary). Absence from the final exam will result in a grade of F for the course unless arrangements are made **prior** (at least 2 weeks) to its administration. No make-ups will be scheduled for quizzes. To allow for unavoidable circumstances that might force you to miss a quiz, your lowest quiz score will be dropped when your final grade is computed.

Grading Policy: Quiz (10 pts) + Homework (20 pts) + Midterm and final exams (70 pts) = 100 pts.

Score	0–59	60–69	70–76	77–79	80–82	83–86	87–89	90–92	93–96	97–100
Grade	F	D	C	C+	B–	B	B+	A–	A	A+

Academic Honesty: All work submitted by a student for a grade must have been done without help from other persons. **Cheating and plagiarism are strictly forbidden.** A first occurrence will result in a grade of 0 on the assignment for all involved students as well as an Academic Dishonesty form being filed with the Dean of Students. A second occurrence will result in a grade of F for the course for all involved students and a second academic dishonesty form being filed. See the University's policy on academic honesty at: <http://codeofconduct.gsu.edu/>.

Remarks:

- This course syllabus provides a general plan for the course; deviations may be necessary.
- If the University is closed due to weather or for any other reason, any exam or quiz that may have been scheduled for that date will be administered on the next available class date. If a homework is due that day, it will be due the next class.
- Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State. Upon completing the course, please take time to fill out the online course evaluation at the end of the semester.
- Students who wish to request accommodation for a disability may do so by registering with the Office of Disability Services. Students may only be accommodated upon issuance by the Office of Disability Services of a signed Accommodation Plan and are responsible for providing a copy of that plan to instructors of all classes in which accommodations are sought.