Introduction to Optimization Theory
Math 346, Spring 2015

Instructor: Professor Lars Ruthotto

Times.
TueTh 8:30 AM - 9:45 AM, Math & Science Center, Room W302

First day of classes: January 13, 2015
Last day of classes: April 23, 2015
Recess: March 9-13 (Spring break)

Office hours.
TueWedTh 11:30 am – 12:30 pm by appointment (lruthotto@emory.edu)

Prerequisites.
Math 221 and CS 140 or 170

Topics.
Theory of unconstrained and constrained optimization
Algorithms for small-scale, smooth optimization problems

Textbook.
No specific book is required for this course. Two excellent books you can use as references are:
Numerical Optimization by J. Nocedal and S.J. Wright
Convex Optimization by S. Boyd and L. Vandenberghe

Grades.
There will be 2 tests, a final exam, and 6 homework assignments.
The final grade will be determined as:
50% tests 30% final exam 20% homework

Tests.
There will be 2 tests on the following dates:
Tuesday, February 17 and Tuesday, March 24

Final Exam.
The Final Exam is cumulative and is still to be scheduled.
**Homework.**

A total of 6 homework assignments will be posted bi-weekly after the Tuesday class starting on January 20. They will be graded and returned promptly.

Collaboration is allowed and highly encouraged. Homework should be done in fixed teams of at most three students. One submission per team is sufficient. Exchange of information between members of different teams is strictly forbidden.

Homework will mostly consist of analysis, but will also have some computing parts. Computing in the course will be done using Julia. Assignments can also be solved using Matlab. Solutions, results, and analysis should be submitted as a single, readable document. This document can either be sent to me electronically (as a pdf file), or you can give me a printed copy. All codes used to generate results for the assignments have to be submitted electronically as a single .zip, .tar, or .tgz archive.

**Class Attendance.**

Attendance is not required, but strongly encouraged.

If you miss a class, then you should get a copy of the notes from one of your classmates. If you come to class, please do not disturb your fellow students and avoid using phones, computers, or leaving in the middle of a lecture.

**Students with Disabilities.**

If you have a disability and would like to request classroom accommodations, please see me after class or during office hours to discuss arrangements.

**Honor Code.**

All students must adhere to the provisions of the Honor Code. For more information, see: [http://college.emory.edu/home/academic/policy/honor_code.html](http://college.emory.edu/home/academic/policy/honor_code.html)