

IE 3053: Global Optimization

Spring 2018 Syllabus

Basic information

Instructor: Oleg Prokopyev, droleg@pitt.edu

Lectures: MW 11:00-12:15

Classroom: Benedum G28

Office: Benedum 1031

Office hours: By appointment

Course website: <http://courseweb.pitt.edu>

Textbook(s): Most of the discussed material will be based on chapters from

- Horst, Pardalos and Thoai, *Introduction to Global Optimization* (Kluwer, 1995) and
- Locatelli, Schoen, *Global Optimization: Theory, Algorithms and Applications* (MOS-SIAM Series on Optimization, 2013)

and recent journal articles.

Topics

Topics to be covered include: basic properties of convex/nonconvex sets and functions, computational complexity of global optimization, algorithms and general solutions methods for global optimizations (branch and bound, convexification and outer approximation, heuristics, etc) and some related applications.

Assignments and Exams

There will be 4-5 homework assignments, the mid-term and final exams (both take-home), in-class presentations (based on the research papers assigned by the instructor) and the final project.

Grading

Tentative weighting for the final grade is 20% homework, 20% mid-term exam, 20% final exam, 20% in-class presentations and 20% final project.

Attendance

No attendance will be taken, but **the students are responsible for the announcements made in the class.**

Homework collaboration: You can learn a lot from working with other people. Therefore, you are allowed to work together to solve homework problems. You must **write up** your homework solutions **on your own**, however, without assistance from other people. This is to help you and me ensure that you understand the solutions that the group came up with.

Exam and final project collaboration: No collaboration is allowed.

If you are ever unsure about the collaboration policy, please contact me for clarification.

Disability

If you have a disability that requires special testing accommodations or other classroom modifications, you need to notify both the instructor and Disability Resources and Services no later than the second week of the term. You may be asked to provide documentation of your disability to determine the appropriateness of accommodations. To notify Disability Resources and Services, call (412) 648-7890 (Voice or TTD) to schedule an appointment. The Disability Resources and Services office is located in 140 William Pitt Union on the Oakland campus.