

Mathematical Sciences, University of Delaware
Math 529: FUNDAMENTALS OF OPTIMIZATION, Spring 2010

Section 50: M, W 5:00-6:15 PM in EWING 204

Instructor: Constantin Bacuta, 532 Ewing Hall, 831-1877, E-mail: bacuta@math.udel.edu

Course Web Page: <https://sakai.udel.edu/portal>

Office hours: M 3:30-4:30PM, W 10:00-11:00AM.

Textbook: *Numerical Optimization, Second Edition (2006)*, by Nocedal & Wright.

Course Description: Maximization and minimization of functions of finitely many variables subject to constraints. Basic problem types and examples of applications; linear, convex, smooth, and non-smooth programming. Optimality conditions. Saddle points and dual problems. Overview of computational approaches.

Homework will be assigned and will be collected regularly. Late problem sets will not be accepted unless prior permission is granted. No homework assignments are accepted after the graded assignments have been returned. Homework will include programming assignments.

Exams: No make-up tests will be given without an official university excuse. There will be one **in-class** midterm exam on March 24, and a **comprehensive** final exam (TBA).

Project: One project/presentation will be assigned during the semester. The project might include programming with MATLAB.

Final grade: Midterm exam = 20%, Final exam = 20%, Homework, Project and presentation = 60%. $A > 94\%$, $A^- \geq 90\%$, $B^- \geq 80\%$, $C^- \geq 70\%$, $D^- \geq 60\%$, $F < 60\%$.

Attendance Policy: I encourage you to attend every class. Attendance and active participation in class will be taken into consideration. College attendance policy as outlined in the Undergraduate Catalog “<http://www.udel.edu/provost/fachb/III-1-l-attendance.html>” will be followed.

Academic Integrity Statement:

All University of Delaware policies regarding ethics and honorable behavior apply to this course. Cheating receives a failing grade.

Please see The Chapter on Academic Honesty of the Student Guide to University Policies: Code of Conduct on the web at <http://www.udel.edu/stuguide/09-10/code.html>

Accessibility for Students with Disabilities:

If you are a student with a disability and wish to request accommodations, please contact

- 1) Office of Disabilities Support Services, 240 Academy St. Alison Hall Suite 119, or call (302) 831-4643, or
- 2) Academic Enrichment Center located at 148 South College Ave., (302) 831-2805.

Information regarding your disability will be treated in a confidential manner. Because many accommodations require early planning, requests for accommodations should be made as early as possible.

Material to be covered will be part of the following book chapters :

1. Chapter 1
2. Chapter 2
3. Chapter 3
4. Chapter 4
5. Chapter 12
6. Chapter 13
7. Chapter 14

Note: This syllabus is subject to change.