

ISEN 629 Engineering Optimization
Fall 2007

<http://ise.tamu.edu/people/faculty/butenko/ISEN629/>

Course Syllabus

Class Hours: TR 12:45PM-02:00 PM

Classroom: 104A Zachry

Instructor: Sergiy Butenko

Office: 236E Zachry

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Credits: 3/0

Course Description

This course develops a modern framework for convex optimization. The topics include introduction to convex analysis, smooth convex optimization, nonsmooth convex optimization, structural optimization, duality theory.

Text: Yurii Nesterov. *Introductory Lectures on Convex Optimization: A Basic Course*, Kluwer Academic Publishers, 2003. ISBN: 1402-07553-7 ISBN 13: 978-1402-07553-7.

Other References:

- ◇ Stephen Boyd and Lieven Vandenberghe. *Convex Optimization*, Cambridge University Press, 2006. ISBN 0 521 83378 7. Can be downloaded from <http://www.stanford.edu/boyd/cvxbook/>.
- ◇ Olvi L. Mangasarian. *Nonlinear Programming (Classics in Applied Mathematics)*, SIAM, 1994. ISBN 0-89871-341-2.
- ◇ R. Tyrrell Rockafellar. *Convex Analysis*, Princeton University Press, 1972.

Prerequisite: ISEN 622, corequisite: MATH 409.

Announcements: The course website is <http://ise.tamu.edu/people/faculty/butenko/ISEN629/>. This site will contain announcements and other information concerning the course. In addition, it will be used to distribute homework assignments, class notes, or other material as required during the course. Please check the web site daily – any information posted on it will be as valid as if it was mentioned in class.

Computer & Software Requirements: Some of the methods may be implemented in MATLAB. Handouts on MATLAB programming will be distributed in class. You are not required to purchase any software.

Computer Accounts: The Industrial Engineering Department maintains an undergraduate computer lab that has virtual 24 hours access, 7 days a week. In order to use this facility, students are expected to establish their accounts within the first week of the course. The lab help desk is located at room 224A.

Grading: Grading will be based on class participation, in-class and take-home assignments.

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities in Room 126 of the Koldus Building, or call 845-1637.

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