NMSA413 Optimization Theory

Tasks that can appear in written part of the exam:

- A theoretical question from geometry:
  Application of separation theorems and Farkas' lemma.
- Convexity, differentiability of functions:
  Verification of convexity (concavity) for a given function. Verification of convexity for a given set using convexity of functions.
- Formulation of a dual program to a given LP.
- Solving a given LP by means of graphical solution of its dual program.
- To find solutions of a given convex program.
- To find solutions of a given NLP program using KKT conditions.
- Verification of a given constraint qualification for a given set.
- Verification of (NLP-SOSC) constraint for a given NLP program.

January 1, 2025

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