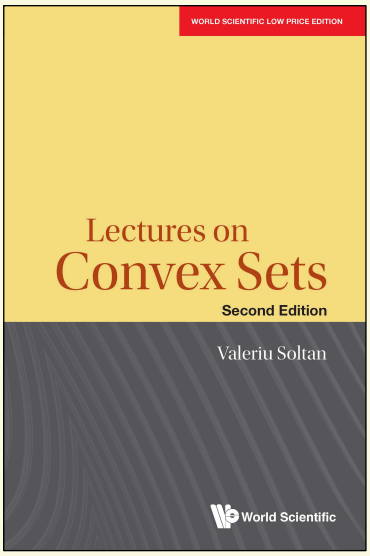
Lectures on Convex Sets
Second Edition



By **Valeriu Soltan**
(George Mason University, USA)

ISBN	9798886131710
Extent	612pp
Binding	Paperback
Year	2026
Price	Rs. 1295

ABOUT THE BOOK

The book provides a self-contained and systematic treatment of algebraic and topological properties of convex sets in the n-dimensional Euclidean space. It benefits advanced undergraduate and graduate students with various majors in mathematics, optimization, and operations research. It may be adapted as a primary book or an additional text for any course in convex geometry or convex analysis, aimed at non-geometers. It can be a source for independent study and a reference book for researchers in academia..

The second edition essentially extends and revises the original book. Every chapter is rewritten, with many new theorems, examples, problems, and bibliographical references included. It contains three new chapters and 100 additional problems with solutions.

READERSHIP

Undergraduate and graduate students in mathematics, optimization and operations research.

CONTENTS

- Prerequisites
- The Affine Structure of $\mathbb{R}^n$
- Convex Sets
- Convex Hulls
- Cones and Conic Hulls
- Recession Directions
- Closedness Conditions
- Cone Polarity and Normal Directions
- Bounds, Supports, and Asymptotes
- Separation Properties
- Extreme Structure of Convex Sets
- Exposed Structure of Convex Sets
- Polyhedra
- Solutions to Problems