

1. Record Nr.	UNISA996466648303316
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Titolo	Convex functions, monotone operators, and differentiability // Robert R. Phelps
Pubbl/distr/stampa	Berlin ; ; Heidelberg : , : Springer-Verlag, , [1989] ©1989
ISBN	3-662-21569-1
Edizione	[1st ed. 1989.]
Descrizione fisica	1 online resource (XII, 120 p.)
Collana	Lecture Notes in Mathematics, , 0075-8434 ; ; 1364
Disciplina	515.8
Soggetti	Convex functions
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Convex functions on real Banach spaces -- Monotone operators, subdifferentials and Asplund spaces -- Lower semicontinuous convex functions -- A smooth variational principle and more about Asplund spaces -- Asplund spaces, the Radon-Nikodym property and optimization -- Gateaux differentiability spaces -- A generalization of monotone operators: Usco maps -- Notes and remarks.
Sommario/riassunto	These notes start with an introduction to the differentiability of convex functions on Banach spaces, leading to the study of Asplund spaces and their intriguing relationship to monotone operators (and more general set-values maps) and Banach spaces with the Radon-Nikodym property. While much of this is classical, some of it is presented using streamlined proofs which were not available until recently. Considerable attention is paid to contemporary results on variational principles and perturbed optimization in Banach spaces, exhibiting their close connections with Asplund spaces. An introductory course in functional analysis is adequate background for reading these notes which can serve as the basis for a seminar of a one-term graduate course. There are numerous excercises, many of which form an integral part of the exposition.