This book bridges optimal control theory and economics, discussing ordinary differential equations, optimal control, game theory, and mechanism design in one vo...Dynamic strategies seek to both anticipate and effect such change in a given system so as to accomplish objectives of an individual, a group of agents, or a social planner. This book offers an introduction to continuous-time systems and methods for solving dynamic optimization problems at three different levels: single-person decision making, games, and mechanism design. The theory is illustrated with examples from economics. Figure 1.1 provides an overview of the bookâ€™s hierarchical approach. A part of mathematics in which a study is made of ways of formalizing and solving problems of choosing the best way, in an a priori described sense, of realizing a controlled dynamical process. This dynamical process, as a rule, can be described using differential, integral, functional, and finite-difference equations (or other formalized evolution relations, possibly involving stochastic aspects), depending on input functions or parameters, called controls, and usually subject to constraints. The Optimal control of economic systems optimal control algorithms dynamic game Nash-game decentralized policy design. This is a preview of subscription content, log in to check access.
