

## FOUNDATIONS OF DYNAMIC ECONOMIC ANALYSIS

### *Optimal Control Theory and Applications*

*Foundations of Dynamic Economic Analysis* presents a modern and thorough exposition of the fundamental mathematical formalism used to study continuous time dynamic economic processes and to interpret dynamic economic behavior, namely, optimal control theory. The style of presentation, with its continual emphasis on the economic interpretation of mathematics and models, distinguishes it from several other excellent texts on the subject. This approach is aided dramatically by introducing the dynamic envelope theorem and the method of comparative dynamics early in the exposition. Accordingly, motivated and economically revealing proofs of the transversality conditions come about by use of the dynamic envelope theorem. Furthermore, such sequencing of the material naturally leads to the development of the primal-dual method of comparative dynamics and dynamic duality theory, two modern approaches used to tease out the empirical content of optimal control models. The stylistic approach ultimately draws attention to the empirical richness of optimal control theory, a feature missing in virtually all other textbooks of this type.

Michael R. Caputo is Professor of Economics in the College of Business Administration, University of Central Florida, in Orlando. He was awarded his Ph.D. in economics from the University of Washington, where he received the Henry C. Beuchel memorial award for distinguished undergraduate teaching by the Department of Economics in 1986. Professor Caputo then taught in the Department of Agriculture and Resource Economics at the University of California, Davis, from 1987 to 2003. In 1998, he was inducted into the volume *Who's Who Among America's Teachers*. Professor Caputo's research has appeared in numerous peer-reviewed journals, including *Review of Economic Studies*, *Journal of Economic Theory*, *International Economic Review*, *Review of Economics and Statistics*, *Journal of Economic Dynamics and Control*, *Journal of Mathematical Economics*, *Journal of Optimization Theory and Applications*, *Journal of Economics*, and *American Journal of Agricultural Economics*.



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