Two of the world’s leading astrophysicists, James Binney and Scott Tremaine, here present a comprehensive review of the theory of galactic dynamics at a level suitable for both graduate students and researchers. Their work in this volume describes our present understanding of the structure and dynamics of stellar systems such as galaxies and star clusters.

Nicknamed “the Bible of galactic dynamics,” this book has become a classic treatise, well known and widely used by researchers and students of galactic astrophysics and stellar dynamics. Praised for its modern approach, as well as for the rigor and exemplary clarity with which the authors handle the material in this book, Galactic Dynamics includes classic results and data while also reflecting the many recent developments in the field. The authors maintain an effective style of exposition throughout, keeping clear what is present knowledge and what is still speculation, while allowing the reader to grasp an overview of the subject before following through (where needed) with the mathematical detail. Most of the astronomical community since the late 1980s was introduced to galactic dynamics through Galactic Dynamics, and it remains the most widely used graduate textbook in galactic astrophysics today. No other book gathers together and presents our current understanding of the field in such a clear and concise way. Through this approach, Binney and Tremaine succeeded in creating a classic reference of enormous pedagogic value.