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Nota di contenuto	1. An introduction to galaxy formation -- 2. The classical theory of gravitation -- 3. A statistical treatment of stellar systems -- 4. Understanding our Galaxy -- 5. Specific aspects of disc and elliptical galaxies -- 6. Galactic chemical enrichment -- 7. The growth of density fluctuations -- 8. Smaller stellar systems: Stellar clusters -- 9. Larger stellar systems: Galaxy clusters.
Sommario/riassunto	Galaxies, along with their underlying dark matter halos, constitute the building blocks of structure in the Universe. Of all fundamental forces, gravity is the dominant one that drives the evolution of structures from small density seeds at early times to the galaxies we see today. The interactions among myriads of stars, or dark matter particles, in a gravitating structure produce a system with fascinating connotations to thermodynamics, with some analogies and some fundamental differences. Ignacio Ferreras presents a concise introduction to extragalactic astrophysics, with emphasis on stellar dynamics, and the growth of density fluctuations in an expanding Universe. Additional chapters are devoted to smaller systems (stellar clusters) and larger ones (galaxy clusters). Fundamentals of Galaxy Dynamics, Formation and Evolution is written for advanced undergraduates and beginning postgraduate students, providing a useful tool to get up to speed in a starting research career. Some of the derivations for the most important results are presented in detail to enable students appreciate the beauty of maths as a tool to understand the workings of galaxies.

Each chapter includes a set of problems to help the student advance with the material.
