1. Record Nr. UNINA9910337872103321 Autore Beech Martin Titolo Introducing the Stars: Formation, Structure and Evolution / / by Martin Beech Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2019 **ISBN** 3-030-11704-9 Edizione [1st ed. 2019.] Descrizione fisica 1 online resource (XIV, 262 p. 90 illus., 49 illus. in color.) Collana Undergraduate Lecture Notes in Physics, , 2192-4791 Disciplina 523.01 Soggetti **Astrophysics** Space sciences **Physics** Astrophysics and Astroparticles Space Sciences (including Extraterrestrial Physics, Space Exploration and Astronautics) Mathematical Methods in Physics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Includes index. Introduction -- Chapter 1: Knowing the Stars -- Chapter 2: Star Nota di contenuto Formation -- Chapter 3: From The Outside In -- Chapter 4: From The Inside Out -- Chapter 5: The Ravages of Time -- Chapter 6: Selected Case Studies -- Appendix A: The 4th Order Runge-Kutta (RK4) Integration Scheme -- Index. This textbook introduces the reader to the basic concepts and Sommario/riassunto equations that describe stellar structure. Various approximation techniques are used to solve equations, and an intuitive rather than rigorous approach is employed to interpret the properties of the stars. The book provides step-by-step instructions, helpful exercises and relevant historical lessons to familiarize students with key concepts and mathematical theories. Based upon a series of one-semester (12 weeks) elective undergraduate courses offered at the University of Regina, this book is intended for students who are interested in seeing how basic calculus and introductory physics can be applied to the understanding

of the stars from their formation to their death. The text provides an

intermediate stepping stone between lower-level undergraduate classes and more specialized postgraduate texts on the subject of stellar structure.