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Sommario/riassunto	ELEMENTS OF AERODYNAMICS An accessible and hands-on textbook filled with chapter objectives, examples, practice problems, sample tests, and an online aero-calculator In Elements of Aerodynamics, Professor Oscar Biblarz delivers a concise and fundamentals-oriented approach to aerodynamics suitable for both undergraduate and graduate-level students. The text offers numerous problems, examples, and check tests, allowing readers to gain and cement their knowledge through hands-on practice. Using a unique blend of fundamentals, the book provides students with a new approach to high lift airfoils including examples designed to complement the theory. It covers the most vital information on incompressible and compressible flow over two-dimensional and three-dimensional wings. A companion website that includes an interactive aero-calculator and additional student resources makes this a suitable text for online, hybrid, and distance learning. Readers will also find: A concise introduction to units and notation with discussion of the proper usage of dimensionless coefficients in aerodynamics, featuring descriptions of airflow as an incompressible and compressible low-viscosity medium past streamlined wings Comprehensive re-evaluation of the fundamentals of fluid dynamics, including the differential control volume approach and formulation of lift, drag, and pitching moments for thin, attached boundary layers over slender wings at high angles of

attack Practical applications of mass, momentum, and energy relations, derived from Euler's equation, Bernoulli's equation, and the Kutta-Joukowski theorem Selected treatment of transonic and hypersonic aerodynamic aspects, including supercritical airfoils, the non-linear small perturbation potential equation, Newtonian theory, and hypersonic lift and drag Well-suited for students enrolled in an introductory aerodynamics course as part of an engineering program, Elements of Aerodynamics will also earn a place in the libraries of physics students and those interested in basic fluid mechanics.