Record Nr. UNINA9910299729103321 Autore Crawley Edward F Titolo Rethinking Engineering Education [[electronic resource]]: The CDIO Approach / / by Edward F. Crawley, Johan Malmqvist, Sören Östlund, Doris R. Brodeur, Kristina Edström Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2014 3-319-05561-5 ISBN Edizione [2nd ed. 2014.] Descrizione fisica 1 online resource (319 p.) Disciplina 502.3 507.1 620 620.00711 Soggetti Engineering—Vocational guidance Engineering Science education Job Careers in Science and Engineering Engineering, general Science Education Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Introduction and Motivation -- The CDIO Approach -- The CDIO Syllabus: Learning Outcomes for Engineering Education -- Integrated Curriculum Design -- Design-Implement Experiences and Engineering Workspaces -- Teaching and Learning -- Student Learning Assessment -- Adapting and Implementing a CDIO Approach -- Program Evaluation -- Historical Accounts of Engineering Education -- Outlook. This book describes an approach to engineering education that Sommario/riassunto integrates a comprehensive set of personal, interpersonal, and professional engineering skills with engineering disciplinary knowledge in order to prepare innovative and entrepreneurial engineers. The education of engineers is set in the context of engineering practice,

that is, Conceiving, Designing, Implementing, and Operating (CDIO) through the entire lifecycle of engineering processes, products, and

systems. The book is both a description of the development and implementation of the CDIO model and a guide to engineering programs worldwide that seek to improve the education of young engineers. Provides an overview of the CDIO approach, then chapters organized according to the CDIO Standards; Includes in each chapter objectives, discussion questions, case studies and clear diagrams to support key concepts and processes; Avoids the jargon of education specialists and clearly explains education terms in the context of their initial presentation.