Record Nr. UNINA9910791761103321 Standards for K-12 engineering education? [[electronic resource] /] / **Titolo** Committee on Standards for K-12 Engineering Education, National Academy of Engineering of the National Academies Washington, D.C., : National Academies Press, 2010 Pubbl/distr/stampa **ISBN** 0-309-16231-9 1-282-88576-6 9786612885761 0-309-16016-2 Descrizione fisica 1 online resource (161 p.) Disciplina 372.358 Soggetti Engineering - Study and teaching (Elementary) - United States Engineering - Study and teaching (Secondary) - United States Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references. ""Front Matter"": ""Preface"": ""Acknowledgments"": ""Contents""; Nota di contenuto ""Executive Summary""; ""1 Introduction""; ""2 Arguments For and Against Content Standards for K-12 Engineering Education"; ""3 Leveraging Existing Standards to Improve K-12 Engineering Education""; ""4 Conclusions and Recommendations""; ""Appendix A: Committee Biographies""; ""Appendix B: Commissioned Papers""; ""Appendix C: Workshop on Standards for K-12 Engineering Education"" "The goal of this study was to assess the value and feasibility of Sommario/riassunto developing and implementing content standards for engineering education at the K-12 level. Content standards have been developed for three disciplines in STEM education--science, technology, and mathematic--but not for engineering. To date, a small but growing number of K-12 students are being exposed to engineering-related materials, and limited but intriguing evidence suggests that engineering education can stimulate interest and improve learning in mathematics and science as well as improve understanding of

engineering and technology. Given this background, a reasonable question is whether standards would improve the quality and increase

the amount of teaching and learning of engineering in K-12 education. The book concludes that, although it is theoretically possible to develop standards for K-12 engineering education, it would be extremely difficult to ensure their usefulness and effective implementation. This conclusion is supported by the following findings: (1) there is relatively limited experience with K-12 engineering education in U.S. elementary and secondary schools, (2) there is not at present a critical mass of teachers qualified to deliver engineering instruction, (3) evidence regarding the impact of standards-based educational reforms on student learning in other subjects, such as mathematics and science, is inconclusive, and (4) there are significant barriers to introducing stand-alone standards for an entirely new content area in a curriculum already burdened with learning goals in more established domains of study."--Publisher's description.