

CDIO: An international initiative to reform engineering education

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The CDIO (Conceive-Design-Implement-Operate) Initiative is a major international initiative to reform the education of undergraduate engineers. The collaborators in the Initiative have proposed a new model for the engineering curriculum that combines disciplinary knowledge with the generic knowledge and skills needed by professional engineers. To implement the new model the collaborators have developed a comprehensive and logical “CDIO Methodology” for designing or redesigning engineering degree programmes. The methodology makes use of the “CDIO Syllabus” that defines in detail the knowledge and skills that students should acquire by the time they graduate. It also involves a set of “CDIO Standards” that specify the key features that should be incorporated in an engineering programme. In the paper, the CDIO curriculum model is introduced, and its Methodology, Syllabus and Standards are described. Examples are then presented in order to demonstrate the implementation of the CDIO approach in particular degree programmes.

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