

Online engineering education: A proposal for specialization of the teacher training in engineering

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Abstract

The context of the COVID-19 pandemic produced new immediate needs in the field of university teaching related to distance learning and forces the universities to transform their “traditional” face-to-face teaching methods, particularly with the implementation of online education. This situation represented a challenge not only for the universities but also for the teachers because they need to transform their teaching work in the classroom to online strategies for online learning environments. To meet these needs for effective online education an online pilot training course in Engineering Education based on the IGIP Curriculum of the TU Dresden was designed and implemented. The course “Introduction to online teaching and learning in engineering” (in Spanish: “Introducción a la Enseñanza-Aprendizaje Online en Ingeniería”) consisted of 4 modules implemented on a mix of online communication strategy of synchronous activities carried out on the Zoom platform, together with asynchronous work on a Moodle-based LMS platform. The course was offered between May and June 2020 for a group of academics of the Faculty of Engineering of a public Chilean University. This paper describes the designed online pilot training course in Engineering Pedagogy and presents the results of the evaluation of its implementation. For this a survey was applied and filled by the participants to evaluate the course and to know their perceptions about their competencies development to improve online learning in engineering. © 2021 Kassel University Press GmbH. All rights reserved.

Author keywords

Distance learning; IGIP curricula; Online engineering pedagogy; University teacher training