

# Concurrent Engineering and Application in Digital Manufacturing subject

ATHAKORN KENGPOL <sup>a,1</sup>, CHAYATHACH PHUAKSAMAN <sup>a</sup>,  
PHATTARASAYA TANTIWATTANAKUL <sup>a</sup>,

CHAWANTORN CHANCHITTAKARN <sup>b</sup> and KARAKADE BUAKAEW <sup>b</sup>

<sup>a</sup>*Advanced Industrial Engineering Management Systems Research Center, Department of Industrial Engineering, Faculty of Engineering, King Mongkut's University of Technology North Bangkok, Bangkok, Thailand*

<sup>b</sup>*Industrial Engineering, Faculty of Engineering, King Mongkut's University of Technology North Bangkok, Bangkok, Thailand*

**Abstract.** Industry 4.0 has changed the way people live, learn and work. It has also changed the way to do business. In response to this rapid change, companies are not only forced to embrace technology but also rethink their human capacity building. Currently, The Reinforcing Non-University Sector at the Tertiary Level in Engineering and Technology to Support Thailand Sustainable Smart Industry or ReCap 4.0 is an effective engineering and technology knowledge and skills development project related to Industry 4.0, which is integrated between 5 Thai universities and 3 EU partner universities. In this regard, at the Department of Industrial Engineering, Faculty of Engineering, King Mongkut's University of Technology North Bangkok, there is a group of students studying Concurrent Engineering and Application in Digital Manufacturing subject. The student creates interesting projects which aim to develop products in digital form according to the requirement and satisfaction of the consumers, and these projects' implementations are estimated using the scoring rubric, which is created under the concurrent subject objective. Moreover, this paper presents experiences from students' perspectives, by using indicators in the form of evaluations. The results show that the students were satisfied with the subject. In addition, they have also accomplished Digital Manufacturing projects, which are their learning outcomes.

**Keywords.** Industry 4.0, ReCap 4.0, Concurrent Engineering, Digital Manufacturing subject

---

<sup>1</sup> Corresponding Author, Mail: athakorn@kmutnb.ac.th