

# OUTCOMES-BASED CURRICULUM IN DISRUPTION ERA FOR CIVIL ENGINEERING STUDY PROGRAM OF MALAYSIA TECHNOLOGY UNIVERSITY AND YOGYAKARTA STATE UNIVERSITY

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## ABSTRACT

This study aims to: (1) formulate the competencies of graduates of the Civil Engineering S1 Study Program UTM and FT UNY with reference to Outcome Based Education (OBE) in the Disruption Era (OBCiDE) demanded by the business world and industry, (2) describe the readiness of lecturers in the two institutions to implement the OBCiDE curriculum, (3) describe the willingness of the world of work and industry to become partners in the implementation of the OBCiDE curriculum, and (4) formulate a model of industry participation in implementing and assessing the OBCiDE curriculum.

This research is the first year of research to answer the 1st and 2nd research objectives, namely: (1) formulating the competencies of graduates of the Civil Engineering Undergraduate Study Program, Razak Faculty of Technology and Informatics, UTM and FT UNY with reference to Outcome Based Education (OBE) in the Disruption Era (OBCiDE) demanded by the business world and industry; and (2) To describe the readiness of lecturers in the two institutions to implement the OBCiDE curriculum. This research was conducted through the following stages: (1) reviewing the existing Civil Engineering undergraduate curriculum; (2) conduct a study of the content of the era of disruption, especially the application of the latest technology in the construction sector; (c) conducting FGD with lecturers of Civil Engineering, Faculty of Engineering UNY, and Razak FTI UTM; (4) conducting FGDs with the construction service industry to explore inputs to the existing Civil Engineering undergraduate curriculum. Data analysis was carried out descriptively, both qualitatively and quantitatively.

The results of the study illustrate that various inputs from lecturers and industry practitioners are added to the CPL (Learning Outcomes) formulation in the curriculum structure of the existing Civil Engineering study program. Most of the input is to strengthen the element of special skills, namely the ability to apply digital technology in the construction sector, including the use of IoT, and the application of BIM in construction management. The second most input is to strengthen the elements of general skills and attitudes, namely the abilities needed in the era of the industrial revolution 4.0 or the era of disruption, which includes 3 main skills, namely foundational literacies, competencies, and character qualities. Meanwhile, input to strengthen the element of knowledge is more emphasized on the application of basic concepts of science, mathematics, statistics and probability to solve problems in the field of civil engineering.

Kata Kunci: *outcomes-based curriculum, disruption era, civil engineering*