Outcomes-Based Assessment of a Basic Engineering Course (Statics of Rigid Bodies)

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Abstract: This paper presents the implementation of the Outcomes-Based Education (OBE) framework in a basic undergraduate engineering course – Engineering Mechanics (Statics of Rigid Bodies), from syllabus design to course assessment. The revision of the syllabus using the OBE format was carried out and outcomes-based assessment is conducted to determine if the intended learning outcomes for this course using the revised syllabus are achieved. Two types of assessment methods were applied: direct and indirect methods to assess the attainment of the course learning outcomes. The direct method used the scores in the quizzes and final exams. The indirect method using an end-of-course evaluation by the faculty and students to determine the perception on the achievement of outcomes. Based on the outcomes-based assessment using direct methods, the achievement of the learning outcomes is barely satisfactory and a review of the course syllabus and teaching and learning activities is recommended.

Key Words: Outcomes-Based Education, Assessment, Syllabus, Engineering Mechanics, Learning Outcomes