

## Development of a discovery-enriched teaching and learning system for engineering students of energy audit by in-class and out-of-class learning activities

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## Abstract:

Facing the global environmental issues, new building energy ordinance, and acquaintance with energy audit becomes essential to engineering graduates and professionals. To cope with these changes and demands, it becomes necessary to introduce discovery-enriched, student-centered, outcome-based teaching and learning approach, and effective ways in the delivery of quality energy audit courses material.

In view of such growing public concerns to arouse students' interest to inquire into the energy audit of building energy efficiency involved in green building development and their associated impacts on our local community, new course material shall provide an opportunity to educate our students to participate as responsible members in a contemporary society. To facilitate learning and teaching of the energy audit comprising both an e-learning module for in-class learning and m-learning module for out-of-classroom activities, with integration of additional tools, Blackboard is used herein that aims to facilitate students to:

understand the energy and carbon audit technology associated with green building development;

develop their discovery ability to appraise building system performance impacts from different perspectives; and

process, record, reflect and share their learning, discovering experience during and after visits to similar building system