

UNIVERSITI TEKNOLOGI MARA

**DESIGN AND FABRICATION OF TRI
WHEEL STAIR CLIMBING
TROLLEY**

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ABSTRACT

The objective of this project is to design and fabricate a specialized tri-wheel stair climbing trolley. The problem statement of this project is the transportation challenges faced by students and staff at UiTM Bukit Besi College. The significance of the study is to develop a practical solution that enables efficient movement of goods and equipment across multiple levels of the college's buildings, particularly when encountering staircases. The proposed tri-wheel stair climbing trolley will be designed to overcome the limitations of conventional trolleys that struggle with stairs and uneven surfaces by incorporating innovative engineering principles. The project will involve a comprehensive analysis of the college's infrastructure, followed by a design phase utilizing Solidwork software for optimal structural integrity. Fabrication will utilize lightweight alloys and advanced manufacturing techniques. The successful implementation of this project will alleviate physical strain, improve efficiency, and create a conducive learning and working environment at the college.

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