

The role of industrial design in the development of a sustainable campus environment (Case Study of Beni Suf University campus)

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Abstract:

Industrial design shapes and enhances the working environment across various fields. In response to the evolving university lifestyle, some institutions have begun to adopt a sustainable university approach, including designing sustainable campuses. This initiative aligns with Egypt's Vision 2030, which aims to implement sustainable development principles and objectives across various sectors. Research conducted at Beni Suf University (BSU) identifies a significant problem: campus planning and design often neglect many sustainable design strategies that address both aesthetic and functional aspects. The aim of this research is to highlight the role of industrial design in generating innovative ideas and solutions that foster a supportive working environment on campus. It seeks to utilize modern techniques to enhance the quality of life, ensure comfort for students and university staff, and uphold sustainable design standards. The importance of industrial design in developing practical solutions is emphasized by studying campus facilities and identifying key challenges that hinder sustainability efforts. This research focuses on the field of industrial design, which has the potential to create an environmentally friendly atmosphere that contributes to the ongoing and future development of the campus from a sustainability perspective. The study adopts an analytical descriptive and applied methodology, specifically targeting fourth-year students in the Department of Industrial Design at the Faculty of Applied Arts, Beni Suf University. And choose three projects: Design a pergola equipped with air purification system using green microalgae. Design sustainable transportation within the university and move between buildings easily and safely. Designing a smart, sustainable cleaning system for the university campus to eliminate waste and garbage.

The most important results of the study were: the effective role of industrial design in developing the university campus by introducing projects that operate according to sustainable design standards to achieve a sustainable educational environment. The study recommended the importance of guiding educational institutions on the importance and role of industrial design in the service of society & the environment, raising awareness of the importance of planning and designing the campus according to sustainable design strategies. The University should activate the role of committees specializing in the environment and sustainability.

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