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# ANNUAL REPORT 2025

FACULTY OF CIVIL ENGINEERING  
UNIVERSITI TEKNOLOGI MARA



# ESD Mapping Faculty of Civil Engineering

## Integration of Sustainability Competencies in the Curriculum

The Faculty of Civil Engineering integrates sustainability competencies across its curriculum to ensure students develop holistic engineering capabilities beyond technical knowledge. Each course contributes to specific competencies such as systems thinking, anticipatory thinking, strategic planning, collaboration, and ethical awareness. These competencies are embedded through diverse pedagogical approaches including project-based learning, problem-based learning, laboratory activities, and industry-related assignments.

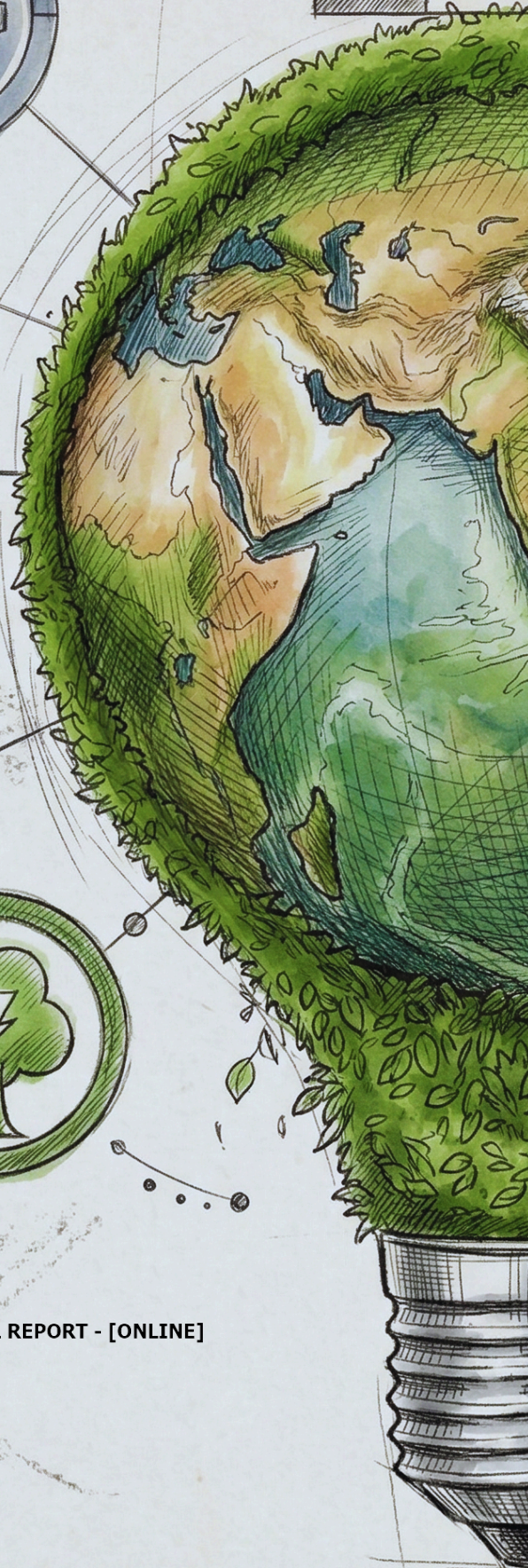
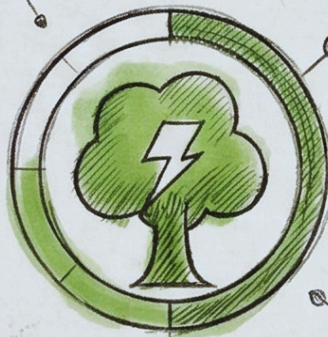
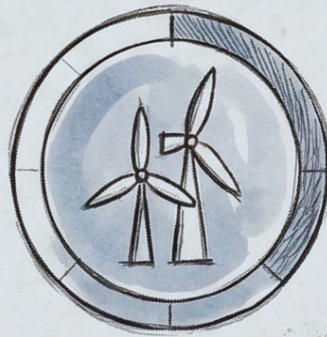
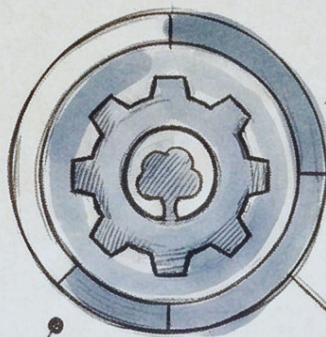
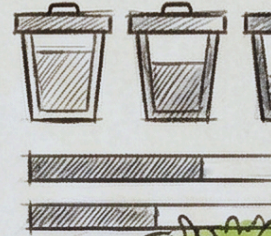
Technology plays a key role in strengthening learning outcomes, where students utilise modelling software, Building Information Modelling (BIM), simulation tools, and digital collaboration platforms to solve real-world engineering problems. Assessments such as reports, group

projects, presentations, and internship reflections are designed to evaluate both technical proficiency and sustainability awareness.

The mapping also aligns courses with relevant Sustainable Development Goals (SDGs), refer Table 1, particularly those related to infrastructure development, environmental protection, social responsibility, and partnerships. Through final year projects, hydrology studies, integrated design projects, and industrial training, students are exposed to practical scenarios that require responsible decision-making and interdisciplinary thinking.

This structured integration ensures graduates are prepared not only to design infrastructure, but also to consider long-term environmental, economic, and societal impacts, supporting the development of future engineers capable of contributing to sustainable development.





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