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UiTM CPP Brings STEM Learning to SABK Al-Madrasah Al-Khairiah Al-Islamiah Through KTP and SULAM Initiative

SINERGI

16/03/2026 / PROFESOR MADYA IR DR NOR AZLAN OTHMAN



POKOK SENA, 16 March 2026 – A total of 360 secondary school students from SABK Al-Madrasah Al-Khairiah Al-Islamiah recently gained hands-on exposure to high-tech engineering concepts through a Knowledge Transfer Programme (KTP) and Service Learning Malaysia–University for Society (SULAM) initiative on 16 January 2026. The outreach, led by 36 students from Electrical

Engineering Studies, Universiti Teknologi MARA Cawangan Pulau Pinang (UiTM CPP), aimed to ignite early interest in Science, Technology, Engineering, and Mathematics (STEM).

The programme was a collaborative effort between students from the CEEE211 course (ETE651) and the UiTM CPP Robotics Club. Serving as facilitators, the university students translated complex academic theories into interactive learning, guiding participants from Form 1 to Form 5 through modules in programming, electronics, and renewable energy.

The curriculum was strategically tailored to suit different academic levels:

- **Upper Secondary (Form 4 & 5):** Students explored advanced technologies, including ESP-based programming for embedded systems and EduPICO programming to master microcontroller fundamentals.
- **Lower Secondary (Form 1 – 3):** Form 3 students were introduced to Arduino technology and circuit development, while Form 1 and 2 students engaged in renewable energy practicals by constructing mini solar-powered cars.





Associate Professor Ir. Dr. Nor Azlan Othman and Ir. Dr. Rozan Boudville, advisors of the UiTM CPP Robotics Club, were present to oversee the sessions. The organizing committee also extended their gratitude to Course Coordinator Assoc. Prof. Ir. Dr. Zakaria, as well as Robotics Club co-advisors Assoc. Prof. Ir. Dr. Nor Salwa Damanhuri and Dr. Belinda Chong Chiew Meng for their instrumental support.

Beyond technical transfer, this initiative provided a vital platform for UiTM students to sharpen their leadership and communication skills through community service. By bridging the gap between higher education and local schools, UiTM CPP continues to fulfill its mission of nurturing a scientifically literate generation ready to meet the demands of a technology-driven future.

This programme reflects UiTM's steadfast commitment to national STEM agendas and university–community engagement, fostering a culture of innovation that begins at the grassroots level.



Tags: [Fakulti Kejuruteraan Elektrik \(FKE\)](#), [SABK Al-Madrasah Al-Khairiah Al-Islamiah](#), [UiTM Cawangan Pulau Pinang](#), [Universiti Teknologi MARA \(UiTM\)](#)

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