



IEM E2TD Collaborates with the University of Wollongong (UOW) Malaysia for STEAM Carnival 2026

By

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The Institution of Engineers Malaysia (IEM) and Engineering Education Technical Division (E2TD), in collaboration with the University of Wollongong (UOW) Malaysia, successfully organised the STEAM Carnival 2026 on 20 May 2026 at the Atrium, UOW Malaysia Glenmarie Campus. The programme was held from 8:30 a.m. to 1:00 p.m. with the objective of promoting Science, Technology, Engineering, Arts, and Mathematics (STEAM) education through engaging, interactive, and hands-on learning experiences.

The carnival received enthusiastic participation from several secondary schools, namely Catholic High School, Sekolah Menengah Kebangsaan (L) Methodist, Chong Hwa Independent High School, and Confusion Private Secondary School. More than 150 students and teachers attended the event, reflecting a strong interest in STEAM-related activities and engineering exposure.

The programme commenced with participant registration and light refreshments, followed by an introduction to UOW Malaysia and its academic programmes. An opening session was then conducted to welcome all participants before they proceeded with a campus tour and participated in the various STEAM Carnival activities held at the Atrium.



Figure 1: STEAM Carnival Registration and Opening Ceremony

IEM E2TD prepared a variety of engaging STEAM stations and hands-on learning activities for the students. Some highlights included the Robot Arm Master Challenge, Electric Maze Challenge, AI Robot Dog Command Challenge, Turbine Generator Set assembly activity, 3D Pen printing with PLA elements, and the Shut the Box Math Challenge. These activities were carefully crafted to improve students' creativity, critical thinking, problem-solving skills, and teamwork through fun and interactive learning experiences.



Figure 2: Posters prepared for the carnival at the IEM E2TD booths.

The Turbine Generator Set station taught students about energy conversion. They assembled and operated a mini turbine system that produced electricity to light an LED bulb. The Electric Maze Challenge tested participants' hand-eye coordination and focus. The Robot Arm Master Challenge promoted precision and control with remote-operated robotic arms. The AI Robot Dog station drew a lot of interest as students experimented with robotic movements and command programming in a fun setting.



Figure 3: Students assembling the Turbine Generator Set and attempting the Electric Maze Challenge



Figure 4: IEM E2TD promotional and educational booth during the STEAM Carnival.



Figure 5: Students interacting with the Smart Dog demonstration and taking part in the Pick-and-Place Robotic Arm Challenge during the STEAM Carnival.

IEM representatives actively participated in the carnival by promoting engineering awareness and engaging with students regarding engineering education pathways and professional development opportunities. Among the IEM representatives present were Mr. Izhar and Ms Diyanah from IEM MDP,

together with the IEM E2TD coordinators, namely Ts. Nur Hasalli Ibrahim, Ir. Ts. Aion Shakila Shamsuddin, Ir. Ts. Zainon Sharmila Shamsuddin, and Ir. Rajasegaran Thevaraj.



Figure 6: IEM E2TD coordinators and IEM MDP at the STEAM Carnival 2026.

The event successfully created an inspiring learning atmosphere where students were able to experience engineering concepts beyond the classroom through practical demonstrations and interactive challenges. The collaboration between IEM E2TD and UOW Malaysia reflects a strong commitment towards nurturing interest in STEAM education among school students and encouraging future participation in engineering and technology-related fields.



Figure 7: Overall participants who contributed to the success of the STEAM Carnival programme.

Overall, the STEAM Carnival 2026 achieved its objective of making learning enjoyable, engaging, and meaningful, while strengthening collaboration among academia, professional institutions, and schools to promote STEAM education in Malaysia.