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## The 1<sup>st</sup> Repair and Retrofit Reinforced Concrete Beam (3RCB) Workshop 2024

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**Figure 1: The workshop participants with their lecturers**

The 1<sup>st</sup> Repair and Retrofit Reinforced Concrete Beam (3RCB) Workshop 2024 was organised by Pengajian Kejuruteraan Awam, Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang, in January 2024. The seminar aims to provide insight into the repair and retrofit of reinforced concrete (RC) structure, particularly beams. The workshop held in the Heavy Structure Laboratory was attended by 102 students taking the Structural Engineering Laboratory (CESS11) course. The workshop covers a range of theoretical topics related to repairing and retrofitting of RC beams. Small groups of students (approximately 3 to 5 students per group) was provided one pre-cracked RC beam for their hands-on experience. Each group was also supplied with Carbon Fibre Reinforced Polymer (CFRP) as the strengthening material and the students must demonstrate their expertise and structural understanding to repair and retrofit the pre-cracked RC beam (Figure 1).

The retrofitted RC beams were then tested on the 1000 kN reaction frame to determine the beam's maximum load capacity. The workshop completed with excellent feedback from the participants. One participant expressed satisfaction with the programme, indicating that it provided them with an opportunity to learn more about repair and retrofit. This hands-on workshop was interesting and valuable to all participants. To summarise, the workshop was a success, and the author believes that this series should be continued in the future, involving students and academicians who wish to enhance their knowledge beyond what is delivered in the university classrooms (Figure 2)



**Figure 2: Hands on session**