

CDIO APPROACH TO ENGINEERING RECRUITMENT ON OPEN DAYS AND SUMMER SCHOOL

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ENGINEERING APPLICANT/TASTER DAY

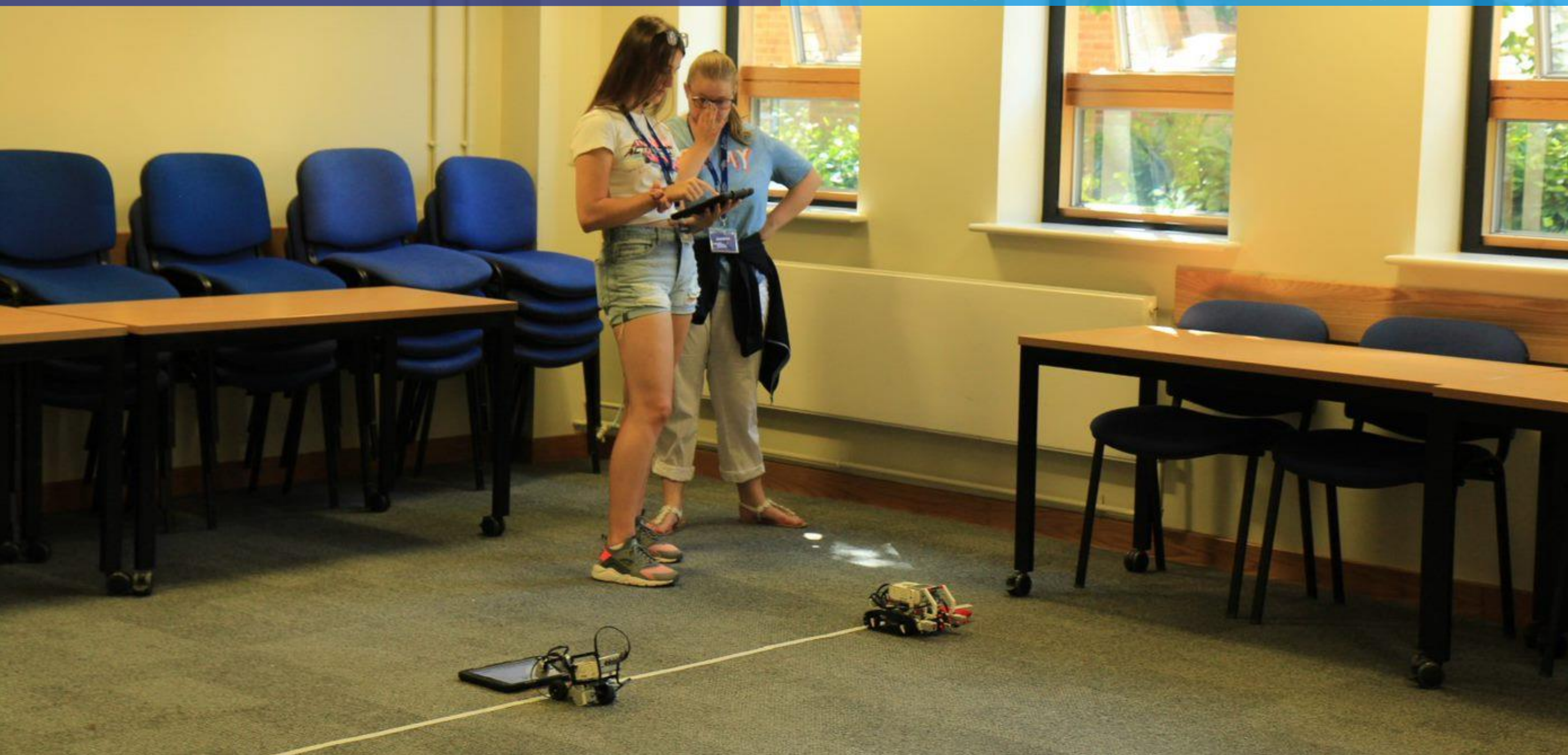
STUDENT LEARNING OUTCOMES:

- Learn working together to complete a preliminary design and implementation exercise
- Gain experience in working in a small group on the project.
- Learn to communicate their ideas.
- Gain experience of an active empirical learning and CDIO[1] activity project in a short period of time

ENGINEERING SESSION PLAN

40/45 MINUTE CDIO ACTIVITY:

- Inspired by University of Liverpool Mechanical Design Module[2]
- Students are to work in pairs or groups of 3
- Using intuitive EV3 software on iPad[3], pre-built Lego Mindstrom® robots and stopwatch
- Each group to optimize the “design” for precise and fastest route
- Each group member takes on a role at optimizing the “design” to take into account timing, calibration, and race strategy



ENGINEERING STUDENT EXPERIENCE

ENGINEERING MINDSET RESULTS:

- Students successfully complete the preliminary design exercise
- All the groups successfully reached the final line and follow the route
- Students communicated their ideas
- Each group came up with different creative strategies to finish the race
- Students were able to demonstrate their understanding of the project learning by answering questions

ENGINEERING STUDENT FEEDBACK

POTENTIAL APPLICANT EXPERIENCE:

- “The activity was fun... it made me think. The open day was very informative...look forward to attending [University]” Open Day Applicant A
- “...gave me insight to what University has to offer” Open Day Applicant B
- After Summer School Y10/11 Students saying Engineering was not for them dropped to 7% from 35% ,
- 3 Summer School Female students applied to CCCU

References

1. Crawley, E. F., Malmqvist, J., Östlund, S., Brodeur, D. R., & Edström, K. (2014). The CDIO approach. In *Rethinking engineering education* (pp. 11-45). Springer, Cham.
2. Murphy, M. L., Bullough, T. J., Johnson, M. W., Millard, S. G., Shenton, A. T., & Sutcliffe, C. J. (2006, June). The Value of Immersive Learning Experiences within an 'Introduction to Engineering' Module. In *Second Annual International CDIO Conference*.
3. LEGO (2019), LEGO education. LEGO [on-line at] URL: <https://education.lego.com/en-gb>

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