

AGENCY

Students delved into the world of operations with the Ladybird Guide to Spacecraft Operations Training Course!

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In brief

From 20 to 23 September 2022, ESA Academy's Training and Learning Facility hosted 30 Bachelor, Master, and PhD students with an engineering or physics background. Drawn from across 11 different ESA Member States, Latvia and Malta, they were participating in the Ladybird Guide to Spacecraft Operations Training Course 2022. The course was simultaneously delivered onsite and online, being live-streamed to a further 16 students.

In-depth

The objective was to teach students how to think like operators, giving them a comprehensive overview of spacecraft subsystems and operations. Content was delivered by a senior ESA Engineer from the Operations Department. *"Perhaps the most valuable part of the course was the trainer's experience and storytelling ability,"* explained a British student from the University of Bristol. *"For every single component or process, he had an example of a mission where it had failed, and he used this to start discussions and create a deeper understanding."*

— University students deliberating during their final exercise

Lectures covered topics ranging from controlling spacecraft to on-board data handling. There were lots of opportunities for students to analyse real-life situations, and use their knowledge to work out what had gone wrong and how errors

could have been avoided! Students also had the chance to join online ESA's [ESOC Operations Team](#) as they monitored a pass of the [OPS-SAT](#) satellite, as well as touring [ESEC-Redu](#).

Finally, students proved their mettle in a team simulation exercise. Under time pressure, they acted as mission operators for a spacecraft in distress. They were challenged to communicate with different mission control teams as well as the spacecraft itself in order to first understand the issues, and then attempt to solve them!

"The course exceeded all expectations," enthused a Maltese student from the University of Malta, *"seamlessly combining education, discussions, site visits and group activities over a single week. It was an excellent opportunity to further my knowledge of space operations under the guidance of an exceptional trainer, while sharing the experience with other enthusiastic and like-minded individuals from all over Europe."*

To find more information on upcoming ESA Academy training courses and opportunities, please visit https://www.esa.int/Education/ESA_Academy/Current_opportunities

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— Students with their course certificates