

AGENCY

Applications now open for first ESA Academy Clean Space Training Course

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ESA Academy is looking for 30 highly motivated engineering Master and PhD students with a foundation knowledge of Space System Design to attend the pilot edition of the Clean Space Training Course. This is an outstanding opportunity for students to complement their engineering studies with insight into a vital aspect of future space missions, providing a springboard to become the next generation of leading space engineers. Held between 11 and 14 February 2020 at ESA Academy's [Training and Learning Facility](#) in ESEC-Galaxia, Transinne, Belgium, applications are now open until the deadline of 5 January 2020.

The space industry has been key in taking environmental research forward by allowing different perspectives on our fragile planet. This has helped to push the environmental crisis to the forefront of public and political awareness. However, more needs to be done to ensure that space missions themselves have lower impacts on the environment, both on Earth and in space. ESA's [Clean Space](#) initiative was set up in 2012 to consider the environmental effects of the entire life cycle of space missions. Clean Space's activities fall into three main areas:

- 1. EcoDesign: addressing environmental impacts and fostering green technologies;
- 2. CleanSat: minimising the production of space debris;
- 3. In-Orbit Servicing/Debris Removal: removing spacecraft from orbit and demonstrating in-orbit servicing.

— Clean space diagram

ESA wants to equip our future space engineers with the knowledge and skills required to tackle these issues. Devised in collaboration between [ESA Education](#) and the Clean

Space Initiative, the pioneering Clean Space Training Course will offer students valuable insight into approaches to consider the environmental impact across the entire life cycle of a space mission. Lectures will focus on how to design a satellite that will not generate debris; will remove defunct satellites and debris already in orbit; and will be environmentally friendly. Students will even undertake group projects to learn how to design a "clean" satellite.

Preliminary schedule:

Day 1:	Clean Space Overview Space Debris Mitigation Requirements & Implication in the Spacecraft Design Life Cycle Assessment & EcoDesign Group Project Session 1
Day 2:	Re-entry Strategies Design for Demise: why and how? Passivation: Propulsion & Power Group Project Session 2
Day 3:	On-Orbit Servicing Close Proximity Operations Active Debris Removal Overview Guidance, Navigation and Control for Capturing Robotics for Capturing Group Project Session 3
Day 4:	Visit to ESEC-Redu Design for Removal Group Project Session 4