

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
ON TRACK - UNDERGRADUATE AND POSTGRADUATE SPACE EDUCATION (2)

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HOLDING A TECHNICAL REVIEW IN AN EDUCATIONAL PROJECT: IMPLEMENTATION AND
LESSONS LEARNED FOR THE OUFTI-1 CUBESAT

Abstract

OUFTI-1 is the CubeSat developed at the University of Liège, Belgium. The main objective of the project is educational: it aims at providing hands-on experience to students in the design, construction, and control of complete satellite systems. Students also have the opportunity to develop different skills such as working as a team, and managing projects.

Holding a review in space project is of crucial importance on a technical point of view. There was a crucial need for OUFTI-1 to check and definitively fix the different interfaces. The organisation of the review appears to be also an excellent opportunity for education. The review emphasizes team spirit, rigor, assessment about one's own work, and global vision of the project. Above all, being confronted with a review familiarizes students with a process widespread in industries and agencies.

The ambition then becomes to achieve technical objectives of the review while maximizing education. Different elements contribute in increasing educational benefits. The first of them is the decision of giving major responsibilities to students. They are considered as professionals with, for example, deadlines and procedures to respect. To enhance this professional aspect, current standards are considered, especially ECSS-M-ST-10-01 (Space Management – Organization and conduct of reviews) which is tailored to the particularities of the CubeSat project. The ECSS standard inspires a rigorous procedure describing objectives and associated success criteria, review entities and their responsibilities, a data management system, data-packages to be fulfilled, and a schedule composed of different tasks and events. So the review process begins with an initiation meeting and continues with the redaction of the data-packages. RIDs (Review Item Discrepancies) are then emitted and finally answered during a work weekend gathering the whole team. The process ends by reports from panels, team, and review authority. These panels are composed of professors and industrials, which also contributes to the educational benefits.

The review process was initiated in February and conclusions will be issued in April. The paper will thus not only detail objectives and procedure of the review, but also outline lessons learned during the review process.