XoRBIT HIGHLIGHTS

SPECIFIC

The program sets clear and precise objectives for participants to achieve. These include defining the mission, conceptualizing the mission, understanding the subsystems, defining the objectives and requirements, defining the architecture and defining the system interaction. The specific goals will provide a clear understanding of the mission design lifecycle.

MEASURABLE

Each goal within the program is designed to be measurable, allowing students and instructors to track progress and assess outcomes effectively. This includes deliverables for each goal and specific milestones such as Preliminary Design Review, Critical Design Review and Flight Readiness Review.

ATTAINABLE

The program is structured to ensure all objectives are attainable, considering the participants skill levels and knowledge. Providing the necessary resources, support, and guidance ensures students can realistically achieve the set goals.

RELEVANT

Each activity and objective is carefully chosen to provide practical insights into satellite technology. By aligning the program with standards and expectations, students can be prepared for real-world challenges and oppurtunities, making their learning highly applicable and valuable.

TIME BOUND

The program indudes specific timelines and deadlines for each goal, ensuring that students stay on track and maintain a steady pace of leaming. This time-bound structure helps manage the program effectively and ensures that each training phase is completed within the timeframe.

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HEX20

FLATSAT AND XoRBIT

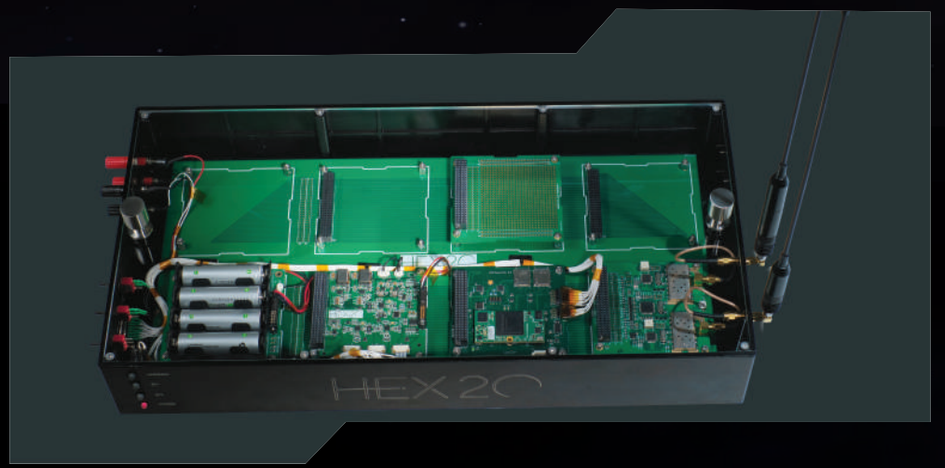
Accelerated space programme for universities

HEX20 FLATSAT

HEX20• FlatSat is an innovative CubeSat laboratory test bed that accelerates mission development, reducing time and costs. It integrates avionics stack components (C&DH, EPS & Transceiver) into a baseboard. A prototype board allows extensive customization and rapid payload interfacing and integration. It has a software development kit (SDK) that enables you to start developing flight software quickly. HEX20 FLATSAT's standout feature is its adaptability for various payloads, enabling researchers to reuse FLATSAT's for multiple missions

FEATURES

- 6x PC-104 slots with full one-to-one I/O pin mapping. (CDH, EPS, UHF/ VHF Transceiver, Interface Card & 2 spare slots)
- 2x PC-104 connectors for bus probing, voltage measurement & debugging.
- 2x spare PC-104 outline for mounting components like battery stack, ADCS.
- 1x Deployment Toggle Switch, 1x RBF Switch, 1x Spare Switch.
- 1x Antenna deployment , 2x Solar panel deployment, 1x Power LED indicators
- 2x SMA-SMA Pass-through for VHF/UHF antenna
- Connector for Solar array simulator & external battery charging.



XoRBIT

The XoRBIT is an innovative educational program with hands-on hardware training. It is meticulously crafted using a goal-based approach known as "SMART" which ensures a structured and effective learning .

PROGRAM OBJECTIVES

- Inspire students to pursue careers in space engineering and instrumentation
- Provide hands on experience and practical insights for students and young professionals into satellite technology and instrumentation
- Enhance technical skills in satellite design, development & operations
- Full cycle mission developement for Universities to develop CubeSat mission concepts, hardware and software realization and facilitate launch and operations
- Develop Satellite data analysis to leverage satellite data to solve real world problems

MODULES

1. Spacecraft design foundation
   a. Fundamentals of System Engineering
   b. Spacecraft design with consideration for mission objectives , budget, risk and schedule.
2. Designing your nanosatellite
   a. Design and develop the mission using HEX20 FLATSAT and accomplish the Preliminary Design Review Gateway
3. Flight model, space access and post operations
   a. Spacecraft Flight model build, integration, testing, operations and data analysis

FLATSAT AND XoRBIT