

# CubeSTEM

## Moving from Demo-Based STEM to Mission-Based STEM

CubeSat kits, digital twin experiences,  
and guided learning for real systems thinking.



# Why Mission-Based STEM Matters

Many STEM demonstrations show isolated concepts. CubeSTEM introduces a more complete learning model built around subsystems, telemetry, control, integration, and mission-style thinking.

Students move beyond passive demonstration toward structured engineering experience.



# The CubeSTEM Ecosystem

CubeSTEM combines hardware, guided learning, digital experiences, and future engineering tools into one mission-based STEM pathway.



CubeSat Kit



Digital Twin



Books &  
Guided Learning



Curriculum  
Relevance

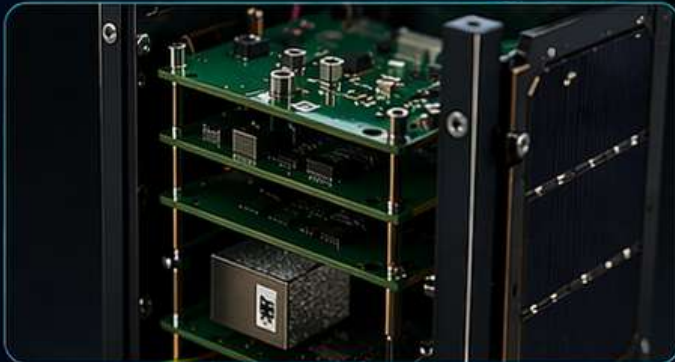


Future Tools

# CubeSat Kit

A hands-on engineering platform designed to introduce students to real subsystem thinking, integration, telemetry, and mission-oriented experimentation.

-  Subsystem learning
-  Telemetry
-  Control
-  Integration
-  Mission logic



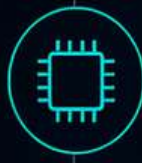
# Learning Through Subsystems

CubeSTEM helps learners engage with sensing, control, telemetry, and system integration as connected parts of one engineering mission.



## ADCS

Attitude determination and control for stable operations.



## OBC

Onboard computing for data handling and system coordination.



## Power

Power management and distribution for reliable mission operations.



## Communication

Telemetry and data links for sending and receiving mission information.



## Sensors

Environmental sensing for real-world data and experimentation.



# Digital Twin Experience

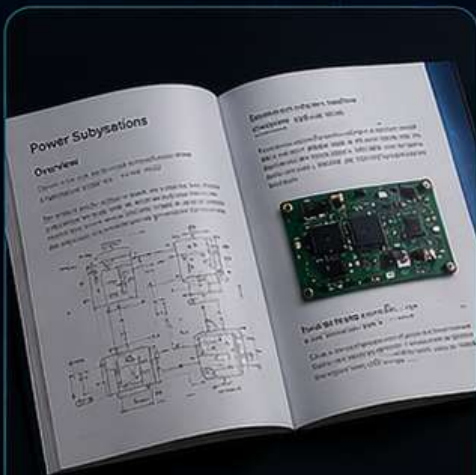
CubeSTEM extends hands-on hardware learning with digital interfaces, telemetry views, and mission-style interaction.

In development



# Books & Guided Learning

Mission-focused books and structured guides that turn hands-on experience into lasting understanding.



## Clear Explanations

Concise, visual content that breaks down real systems.



## Guided Activities

Hands-on exercises that build confidence and competence.



## Mission Connections

Real-world scenarios that show how systems come together.

# Curriculum Relevance

Aligned to core STEM and engineering disciplines, CubeSat Kit makes complex concepts tangible and assessment meaningful.



Supports learning outcomes across multiple domains.

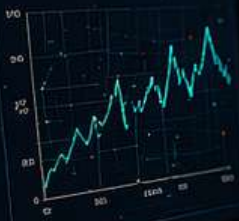


## Mathematics

Apply calculations, modeling, and data analysis to real mission data.

$$x_{k+1} = Ax_k + Bu_k$$
$$y_k = Cx_k + Du_k$$

$$\text{RMSE} = \sqrt{\frac{1}{N} \sum_{i=1}^N (y_i - \hat{y}_i)^2}$$



## Engineering

Design, build, and test subsystems with real hardware.



## Computer Science

Write code, process data, and develop embedded applications.



## Physical Sciences

Explore concepts in motion, energy, signals, and environmental sensing.



## Data Literacy

Collect, visualize, and interpret telemetry to make informed decisions.



## Professional Skills

Build teamwork, communication, and project management through real missions.



# Deployment Pathways

Flexible ways to bring CubeSat Kit into your learning environment and start building the future.



## Scalable. Adaptable. Impactful.

Whether you're starting small or scaling across campuses, CubeSat Kit adapts to your goals.



## For Classrooms

*Hands-on learning at any level*

- Ideal for middle school through university
- Supports project-based and inquiry-based learning
- No prior space experience needed



## For Institutions

*Research and workforce development*

- Integrate into engineering and STEM programs
- Build capstone projects and student-led missions
- Strengthen partnerships and industry readiness



## For Organizations

*Outreach and capacity building*

- Run workshops, camps, and training programs
- Inspire the next generation of space professionals
- Expand access to mission-driven STEM education



## Getting Started

A smooth path from day one to launch readiness.



### 1. UNBOX

Everything you need, ready to go.



### 2. LEARN

Follow guided activities and build skills.



### 3. BUILD

Assemble, test, and run real-world experiments.



### 4. LAUNCH (Your Mission)

Apply, innovate, and go further.

CubeSat Kit makes space education possible—today.

[cubestem.com](http://cubestem.com)



**CUBESTEM**  
MISSION-BASED STEM

# The Future of Space Education

**Built by learners. Backed by  
educators. Inspired by space.**

CubeSTEM empowers the next generation to explore real engineering, solve meaningful problems, and build with purpose.

**Real space missions start  
with real-world learning.**



Make learning  
**Meaningful**

Turn theory into hands-on discovery.



Build the  
**Future**

Inspire innovation through real-world challenge.



Join a Growing  
**Community**

Backed by educators, built for impact.



**Let's Build What's Next.**

CubeSTEM is more than a kit—  
it's a launchpad for curiosity,  
confidence, and the future.



Learn more. Get started.

[cubestem.com](https://cubestem.com)



**CUBESTEM**  
MISSION-BASED STEM