CubeSat Club
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Introduce Yourself!

- Name

- Are you a new or returning member?

- What got you interested in joining CubeSat Club?

- What is something you'd like to learn or do at CubeSat Club this year?

Review of Last Year

- Attitude Control

- Power

- Telemetry

- Structures

- Testing

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Teams

- A - Control – Points the spacecraft in the right direction

- B - Power – Makes sure the satellite always has enough power

- C – Mechanisms/Thermal – designs all moving parts, makes sure everything stays at the right temperature

- D - Telemetry – Makes sure we can talk to the CubeSat

- E – Payload/Integration – designs the experiments on the satellite, works on interfaces between systems

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Control

- Attitude: Measure, report, change the CubeSat orientation

- Important!
  - Our Cameras are fixed
  - Must look at the star throughout the mission
  - Cameras on each CubeSat must point to each other

- Tasks:
  - Building magnetic torquers
  - Control software for reaction wheels

Power

- Provides the power supply and transmits the power to all the components in the CubeSat

- Important!
  - All components have power requirements to do their jobs
  - Everything will depend on the CubeSat having power

- Tasks
  - Choose power source, storage, and distribution methods
  - Map out power usage in all possible scenarios

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Mechanisms/Thermal

- Moving parts that implement commands from the Control team, parts that take heat away from other components

- Important!
  - Too hot/too cold means it won't work
  - Failed mechanisms mean a failed mission

- Tasks
  - Design/build reaction wheel
  - Model heat dissipation and disturbances
  - Choose the materials that go into the CubeSat

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Telemetry

- Send and receive commands and data

- Important!
  - We need to be able to tell the CubeSat what to do
  - All systems depend on telemetry to get their commands

- Tasks
  - Decide what sensors transmitters and receivers we need
  - Set up the ground station
  - Choose the components and design how they will deploy

Payload/Integration

- Use all the sensors to accomplish the mission, make sure components from all systems work together

- Important!
  - We have three goals. We need to make sure all are met
  - If our systems can't work together the mission won't work

- Tasks:
  - Decide on interfaces: how does each system talk to each other—if two groups want different things integration decides what is most important!
  - Testing

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Challenge Question

Which of these systems will be

essential to completing the mission?

Next Week:

- Everyone will meet

- Finish the testing machine

- You will find out your teams

- Team meeting schedule

- Send your name and your answer to the challenge question to cubesat@psatellite.com

Contact Information

Website:

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