

# UASat System Requirements Review

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Key requirements consist of

- *Functional* Requirements, which describe what must be done
- *Operational* Requirements, which describe how well it must be done
- *Constraints*, which limit the available resources, schedule, or physical characteristics

Ref: Sec 2.1 SSM

“All requirements must begin with succinct but well-defined mission needs focusing on the critical functional and operational requirements, without unnecessarily constraining or dictating the design.” [Ref: Chap 4, p69, SMAD]

Requirements contain no unverifiable terms or goals such as “maximize,” “sufficient,” or “optimize,” because developers cannot interpret them. [Ref: Chap 4, p70, SMAD]

A requirements review resolves, finalizes, and formalizes the requirements of systems and subsystems. Uncertainty in the requirements can lead to confusion and result in a system or subsystem that is difficult to integrate or that does not satisfy the needs. It is important to address the needs to be accomplished by the system and how the system will be operated to satisfy those needs. Requirements, their sensitivities, and, if applicable, goals should be clearly specified in a manner that provides maximum latitude in how they are achieved by the design engineers. [Ref: Chap 1, Sec 1.5.3, Fundamentals of Space Systems]

## **Requirements/Constraints:**

- Environmental
- Design
- Externally Imposed