



How to CAD almost anything!

MIT HSSP – Spring 2024

Instructors: Andy & Nat

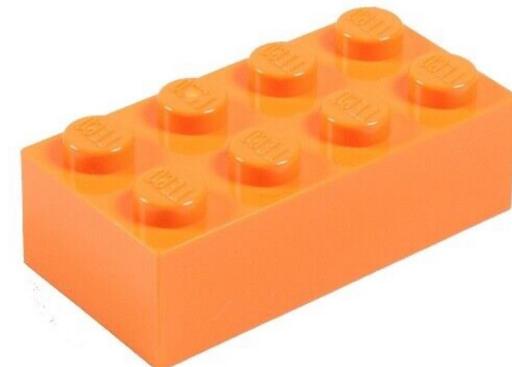


Week 3



Agenda

- Questions?
 - Anything remaining from Session 2?
- Session 3:
 - Demo of the session's Fusion 360 commands:
revolve, mirror, circular pattern, plane creation.
 - Demo of projects: fidget spinner, cubesat!
- Questions?
- Preview of Session 4



Questions?

Any lingering questions from last week? Anything in particular you would like us to review again?



Session 1:

- Sketches
- Features
- Coloring parts

Session 3:

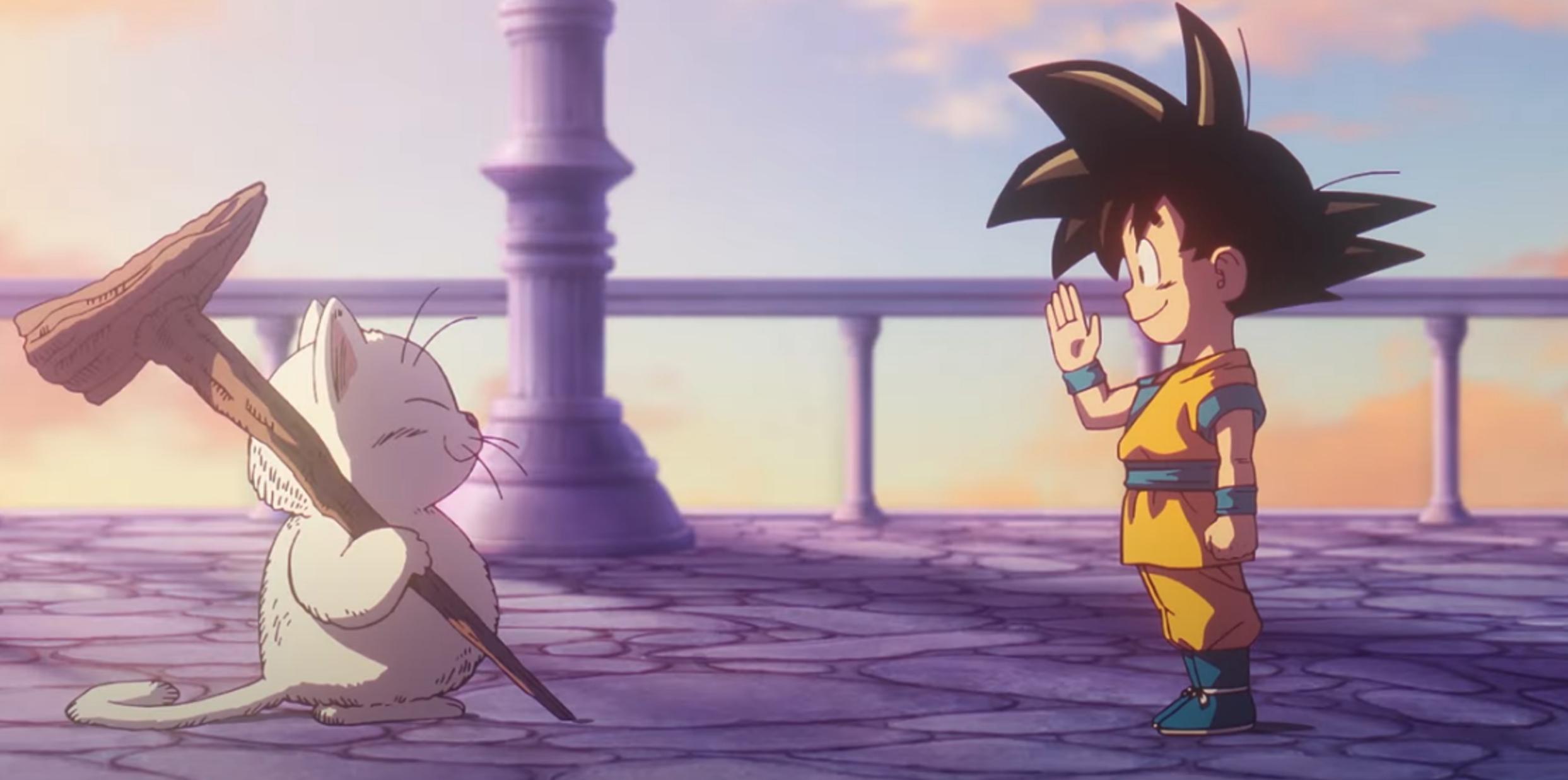
- Patterns
- Planes
- Revolve
- Mirroring

Progress in the saga: we have collected the 1- and 2-star Dragon Balls, and today we'll find the 3-star!

Session 2:

- Splines
- Sketch pictures





Work for Dragon Ball DAIMA will continue, and is set for release in the Fall of

RES.16-002 | January IAP 2024 | Non-Credit

How To CAD Almost Anything

[How to CAD Almost Anything](#)[Session Recordings](#)

Course Description

Have you ever wondered how objects from our daily lives are designed? How can we generate a computer 3D model of a mug, a bottle of Diet Coke, or a Saturn V rocket? What about designing the blades of a jet engine? A test dummy? How about making an animation of a LEGO house building itself? Or making a realistic render of a bowl of fruit? In this workshop, you will learn skills to design all these and much more!

Split into nine sessions, this workshop introduces CAD (Computer Aided Design) using the parametric modeling software SolidWorks, through various fun examples focused on reverse engineering. In contrast to traditional mechanical design courses, this workshop emphasizes the design process itself, understanding how we can plan and best leverage our available tools to arrive at our desired result. Thus, the sessions are less about following the instructions on an engineering drawing, and more about independent thinking and strategizing, reverse engineering an object into a 3D model.

Come and learn how to CAD almost anything!

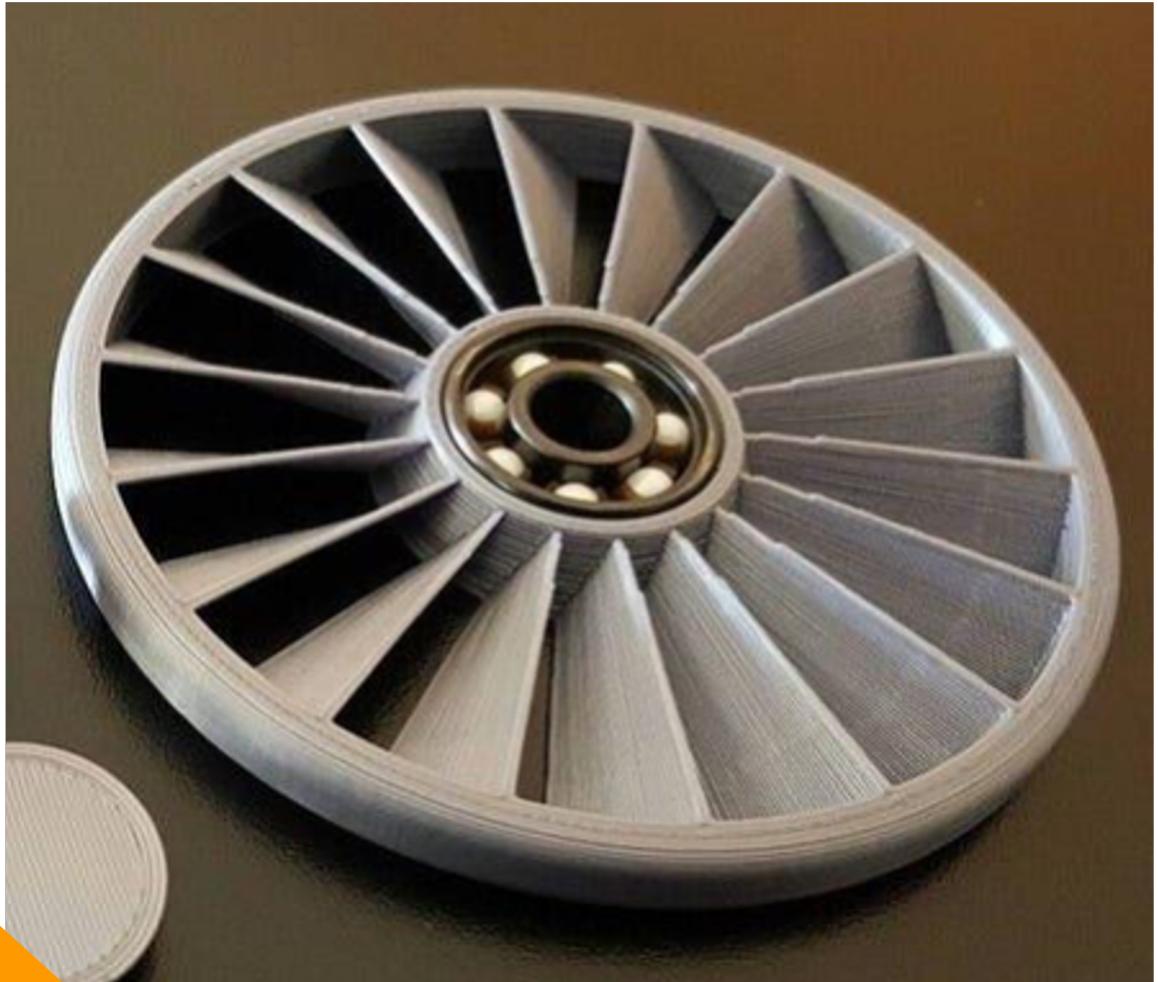
This supplemental resource offers links to the class's [website and workshop materials](#) as well as a companion playlist of [session recordings](#) on YouTube.

[Show less](#)

Students in this workshop learned basic CAD skills and reverse-engineering of an object into a 3D model.

The MIT Undergrad/Grad (Solidworks) version of this class is now available on MIT OCW! You can see it here: <https://ocw.mit.edu/courses/res-16-002-how-to-cad-almost-anything-january-iap-2024/>

Session 3



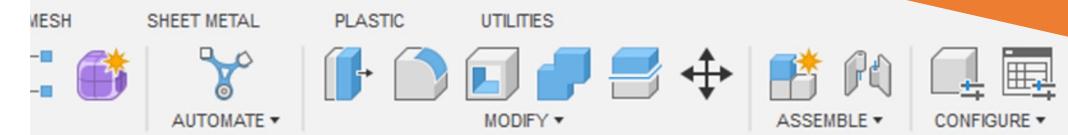
Jet engine/compressor spinner!



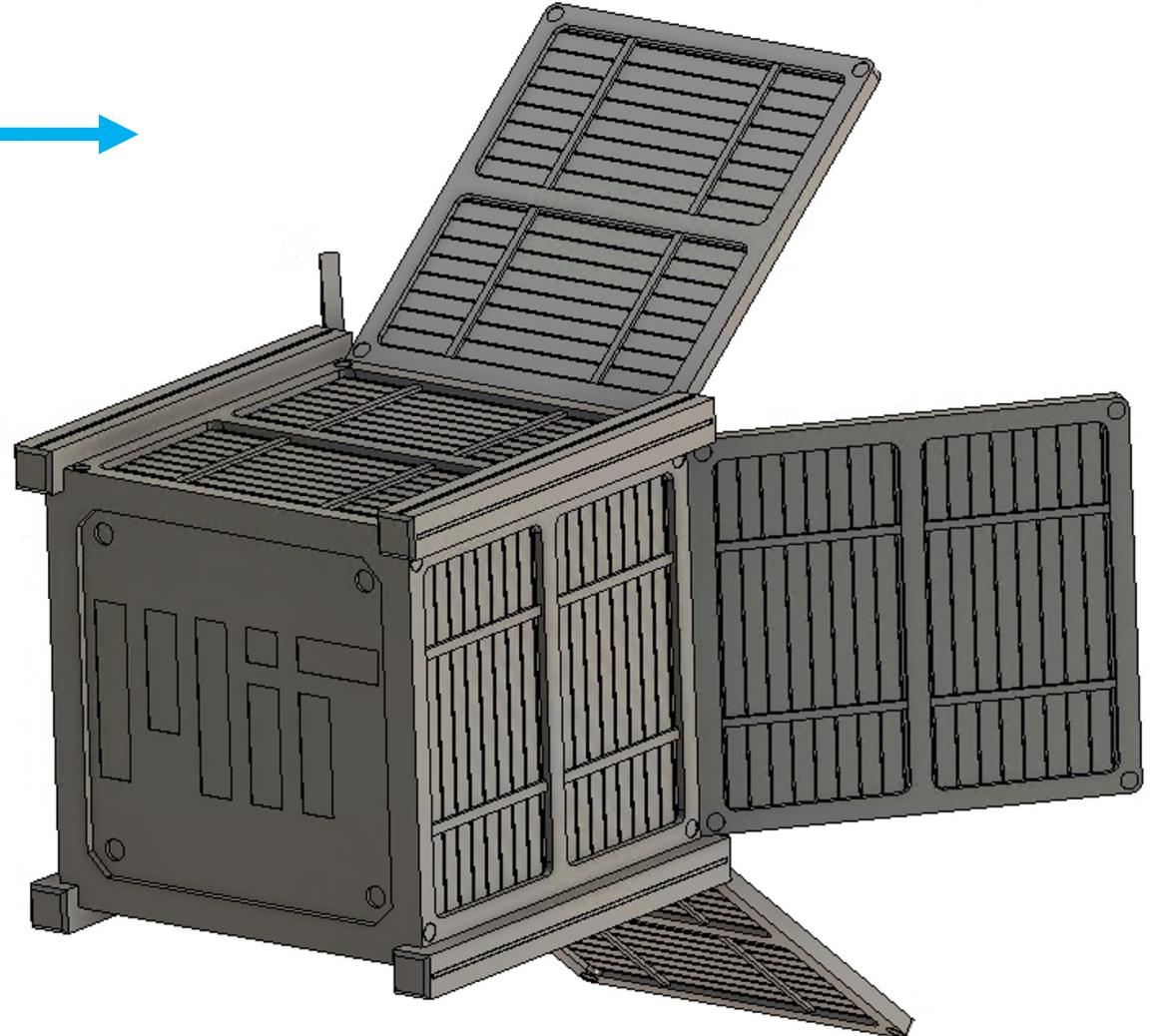
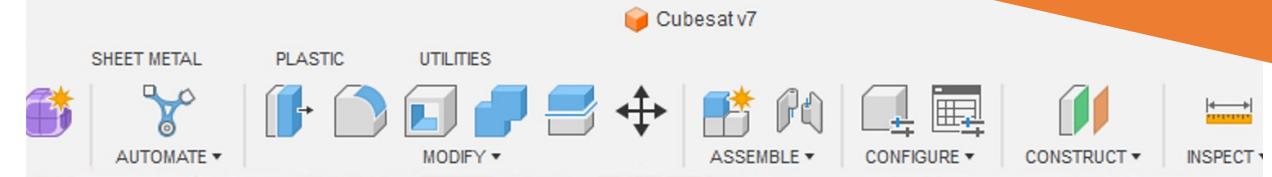
Cubesat!

Jet engine spinner!

Jet Engine v1



Cubesat!



Questions?

Feel to send us an email anytime
during the week if you have any
questions!



Preview into Week 4



Banana!



Snowman