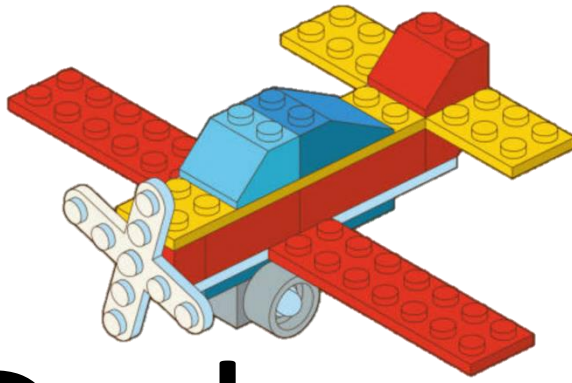




SIEMENS NX



How to CAD almost anything!



MIT IAP '25

Instructor: Andy Eskenazi

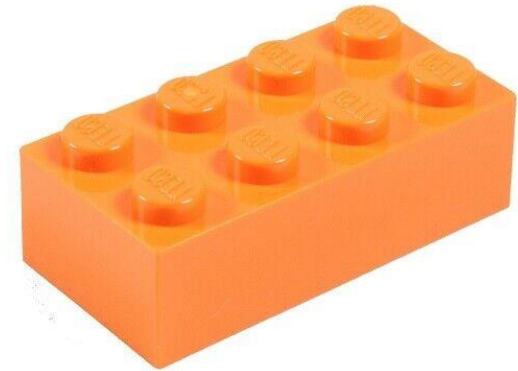


Session 1
MIT AEROASTRO



Agenda

- Quick intros!
 - Why Siemens NX?
- Workshop logistics and important info
 - Overview of sessions and projects
- Session 1:
 - Demo of the session's Siemens NX command *sketches, plane selection, boss extrude/cut, fillet/chamfer, colors, material properties...*
 - Demo of projects: six-side dice, Nokia 8210
- Questions?
- Preview of Session 2



Quick Intros!



Me
(Andy)

United A320 Pilots!

- 1) Name, major, year
 - Eg: Andy, AeroAstro, PhD Y2
- 2) Hometown
 - Eg: Buenos Aires, Argentina
- 3) Spirit animal
 - Eg: Angus Aberdeen cow
- 4) Why CAD almost anything?
 - Eg: I think it's cool to look at a random object and imagine how to cad it

Why CAD?

Building something new

Being creative

Getting faster at CAD

CADding more
complex objects

Designing the
objects I see in the
real world

Making stuff for my
room

Learning to be more
efficient

Testing out different
CAD platforms

Becoming more
familiar

Making cool
assemblies

Learning best
practices

Generating figures
for research

CADding stuff for
D&D

CADding anything!

Why Siemens NX?

- Free (for students)
- Widely used by large engineering firms around the world, especially due to its part inventory system (Teamcenter)
- Comparable interface to Solidworks, but a lot more functionalities (to make the CAD process quicker)

The screenshot shows the MIT OpenCourseWare website. The header includes the MIT logo, 'OpenCourseWare', a search icon, a 'GIVE NOW' button, and links for 'ABOUT OCW', 'HELP & FAQS', and 'CONTACT US'. Below the header, the course title 'How To CAD Almost Anything' is displayed. The main content area is divided into three columns. The left column contains links to various resources: 'How to CAD Almost Anything with SolidWorks', 'SolidWorks Session Recordings', 'How to CAD Almost Anything with Fusion 360', 'Fusion 360 Session Recordings', 'How to CAD Almost Anything with Onshape', 'Onshape Session Recordings', and 'Instructor Insights'. The middle column contains the 'Course Description' and 'Course Info'. The 'Course Description' text asks if the user has ever wondered how objects from daily life are designed and lists examples like a mug, a bottle of Diet Coke, a Saturn V rocket, jet engine blades, a test dummy, a LEGO house, and a realistic render. The 'Course Info' section lists the instructor as Andy G. Eskenazi, the department as Aeronautics and Astronautics, and the topics as Engineering, Aerospace Engineering, and Mechanical Engineering. The right column features a graphic with the text 'How to CAD almost anything!' and images of various objects, including a spoon, a pencil, a bottle, a LEGO figure, and a jet engine. Below the graphic, it states: 'Students in this workshop learned basic CAD skills and reverse-engineering of an object into a 3D model.'

- Add one more CAD software to the open-source portfolio in OCW!



Welcome!



How to CAD almost anything!



MIT IAP '25



Workshop logistics

Week 1		Week 2		Week 3	
Session 1: January 7 (Tuesday)		Session 3: January 14		Session 5: January 21	
Sketches, basic feature commands, editing and defining sketches, coloring parts, changing material properties	<ul style="list-style-type: none"> • 6-sided dice • Nokia 8210 	Revolve, mirror, circular patterns, angled planes	<ul style="list-style-type: none"> • Fidget spinner • Chinese pagoda 	Assemblies, exploded view, animations, engineering drawings	<ul style="list-style-type: none"> • LEGO 2x4 brick • LEGO 2X8 plate • LEGO airplane assembly • Engineering drawings
Session 2: January 9 (Thursday)		Session 4: January 16		Session 6: January 23	
Spline tool, sketch picture	<ul style="list-style-type: none"> • MIT Angry Beaver banner • Airline keychain 	Loft, sweep, review of previously learned commands	<ul style="list-style-type: none"> • Paddle tennis racket • Banana! 	Sketch/feature names, equations, design table, configurations	<ul style="list-style-type: none"> • Wooden toy train with tracks

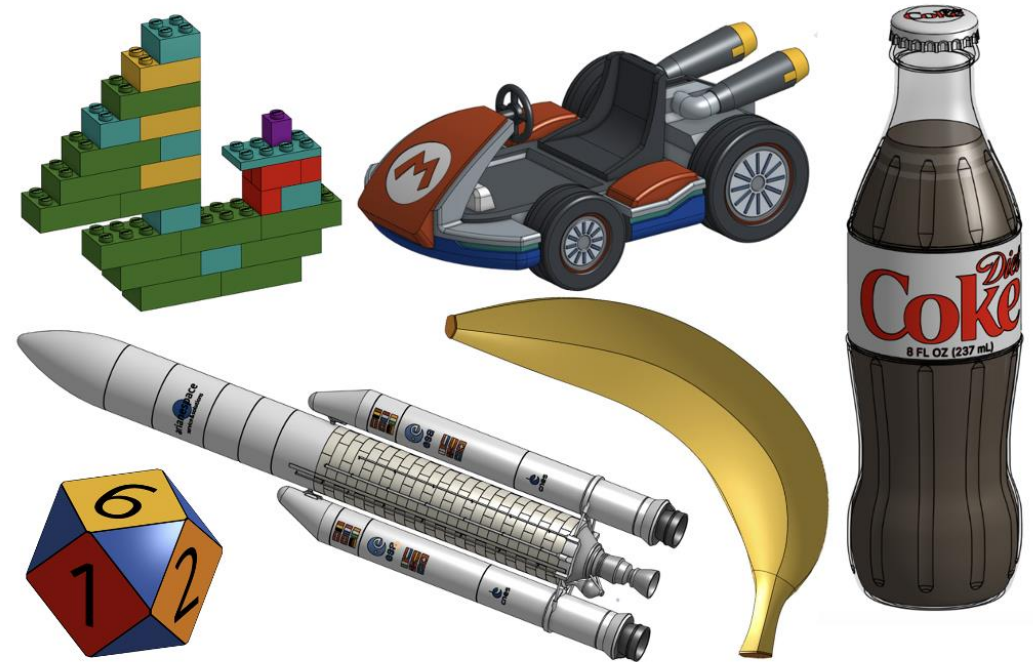
Important info

- Meeting times:
 - Tuesday: 10:00am – 12:00pm
 - Thursday: 10:00am – 12:00pm
- GIS & Data Lab (Rotch Library)
 - Open M – F: 10:00am – 6:00pm
 - 16 computers (which have Siemens NX on them).
- Online resources:
 - GitHub
<https://github.com/andyeske/How-to-CAD-Siemens-NX>.

How to CAD almost anything!

IAP 2025 – AeroAstro Workshop

A compressed yet rewarding introduction to the parametric design software [Siemens NX](#), for beginners (no experience at all) and pro-users alike. Come learn how to CAD



(computer-aided design) essentially almost anything!

Yes, this could be YOU at the end of the workshop! You'll be equipped with the tools to design cool looking things such as a LEGO boat, a Mario Kart, a bottle of Coke, a banana, an Ariane V rocket, and even a 12-sided dice!

Workshop Details

Subject Title:	How to CAD almost anything!
Prerequisites:	Willingness to have fun and think outside the box!
Enrollment:	20.

Check out the syllabus if you have more questions!

Session 1

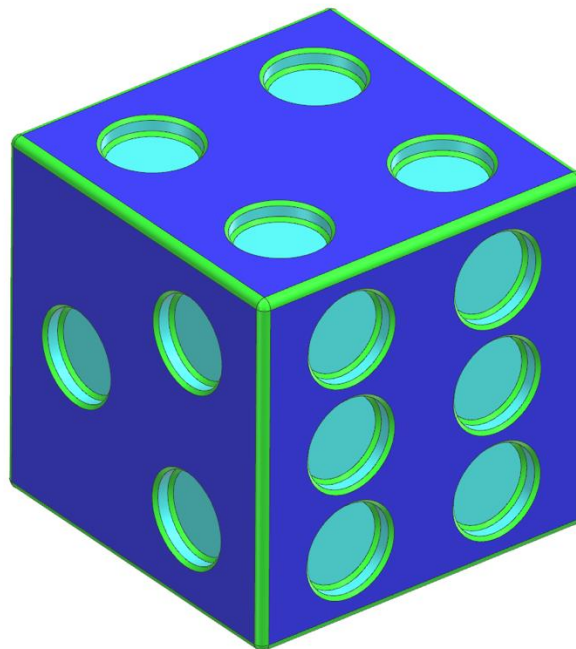


6-sided dice



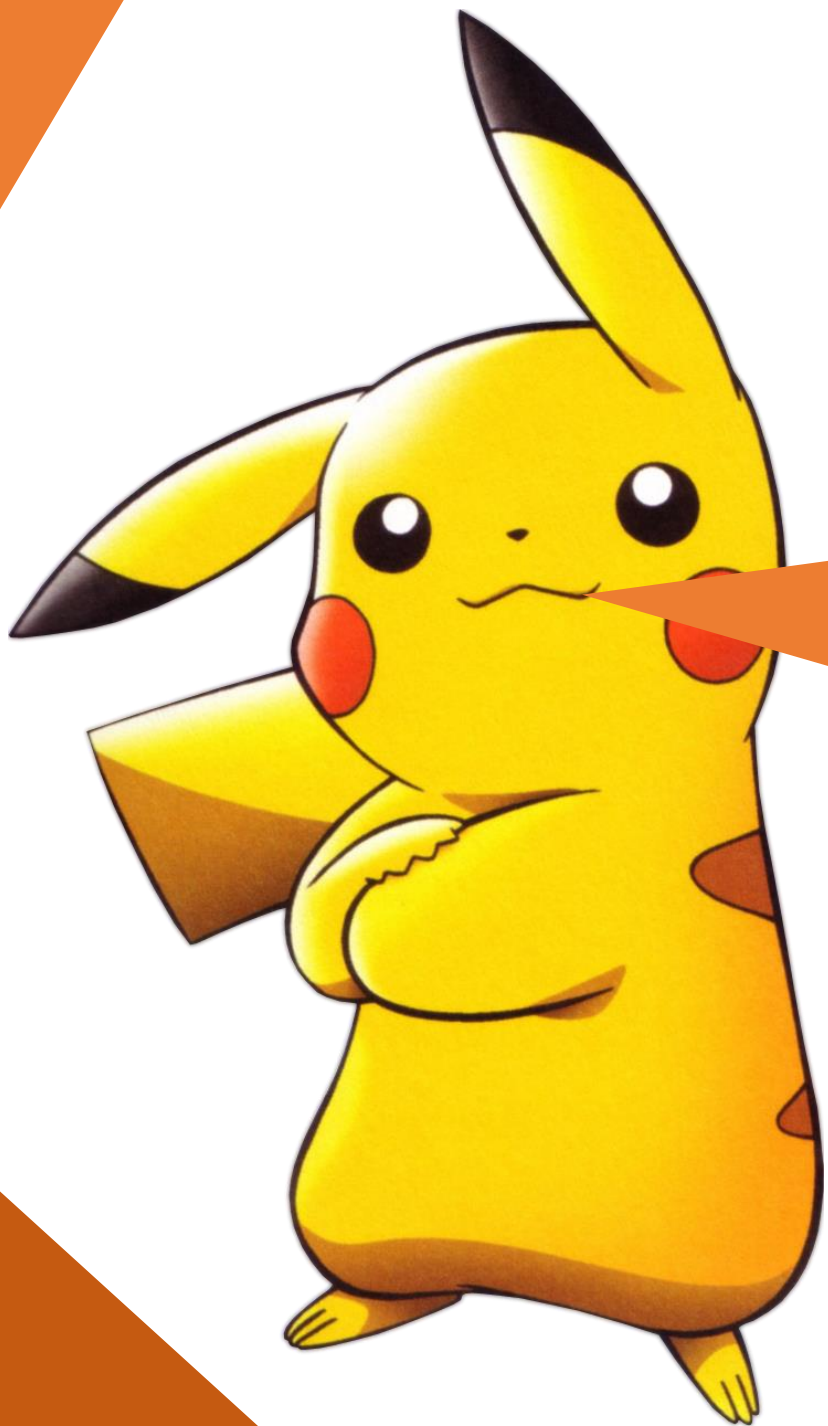
Nokia 8210
phone

6-sided dice



Nokia 8210 phone





Questions?

Preview into Session 2

MIT



MIT Angry Beaver banner



Airline logo keychains