



# OCN 479-001

3D Design

# Today's plan



Rest of semester plan



Interactive lecture



Build sensors!



Rest of  
semester  
plan/check-  
in

# Check in/plan

- ▶ How was last week's Blue Economy/Innovation & Commercialization class?
- ▶ 3 more classes before fieldwork. 1 of those should be final assembly and dock testing. So today and next week for final design!!!
- ▶ Progress—everyone is doing well, but going to be extremely tight with field plans. Make sure if you are not your group's coding leader that you find other work to stay busy.
- ▶ Final reports need some data—doesn't have to be final, successful instrument, but has to have something. Talk with your team about how you will ensure inclusion of data in your final presentation and continuity report.





# Today's topic

3D Design

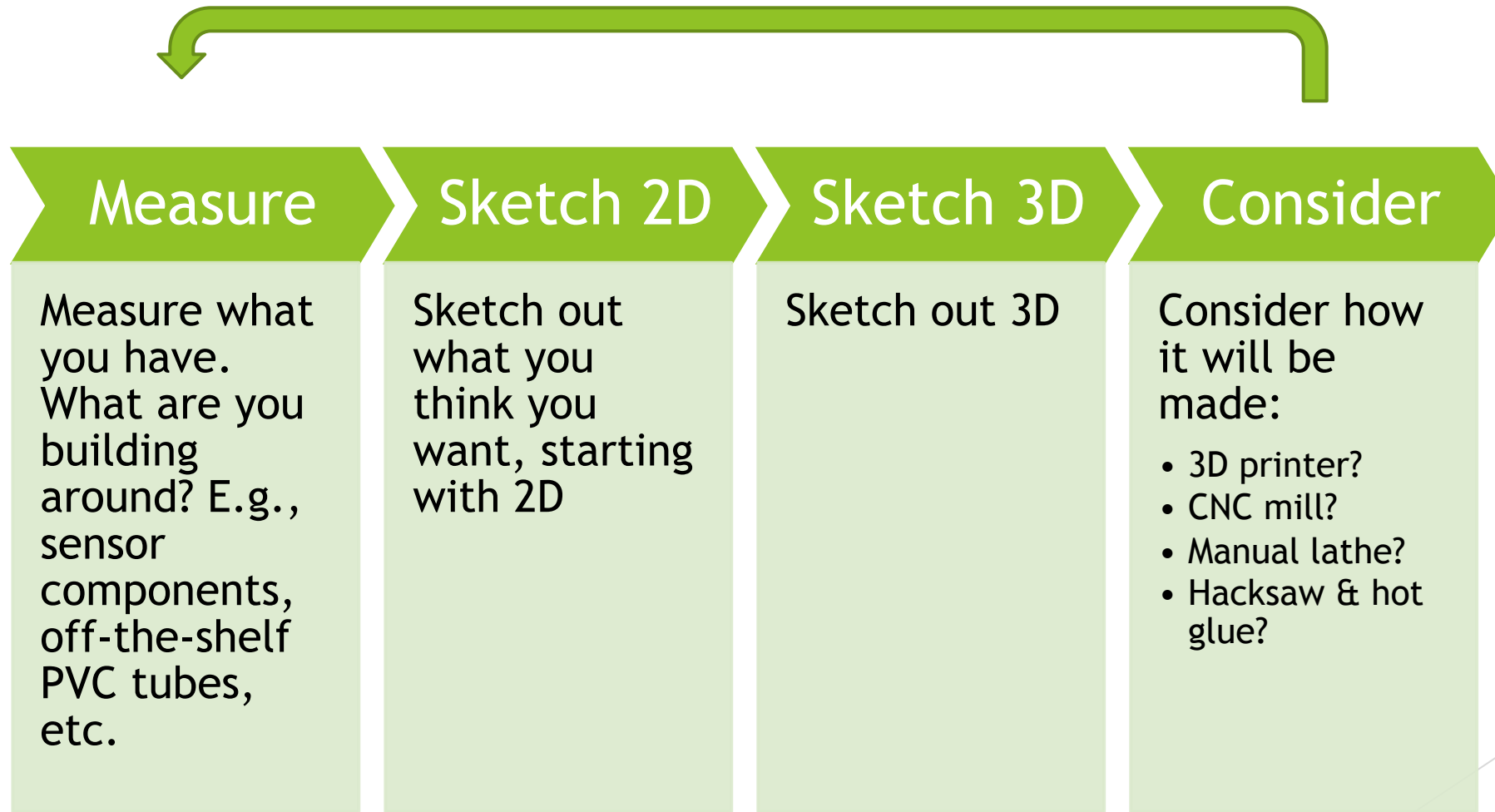
# 3D Design

Many options: some free, some extremely expensive

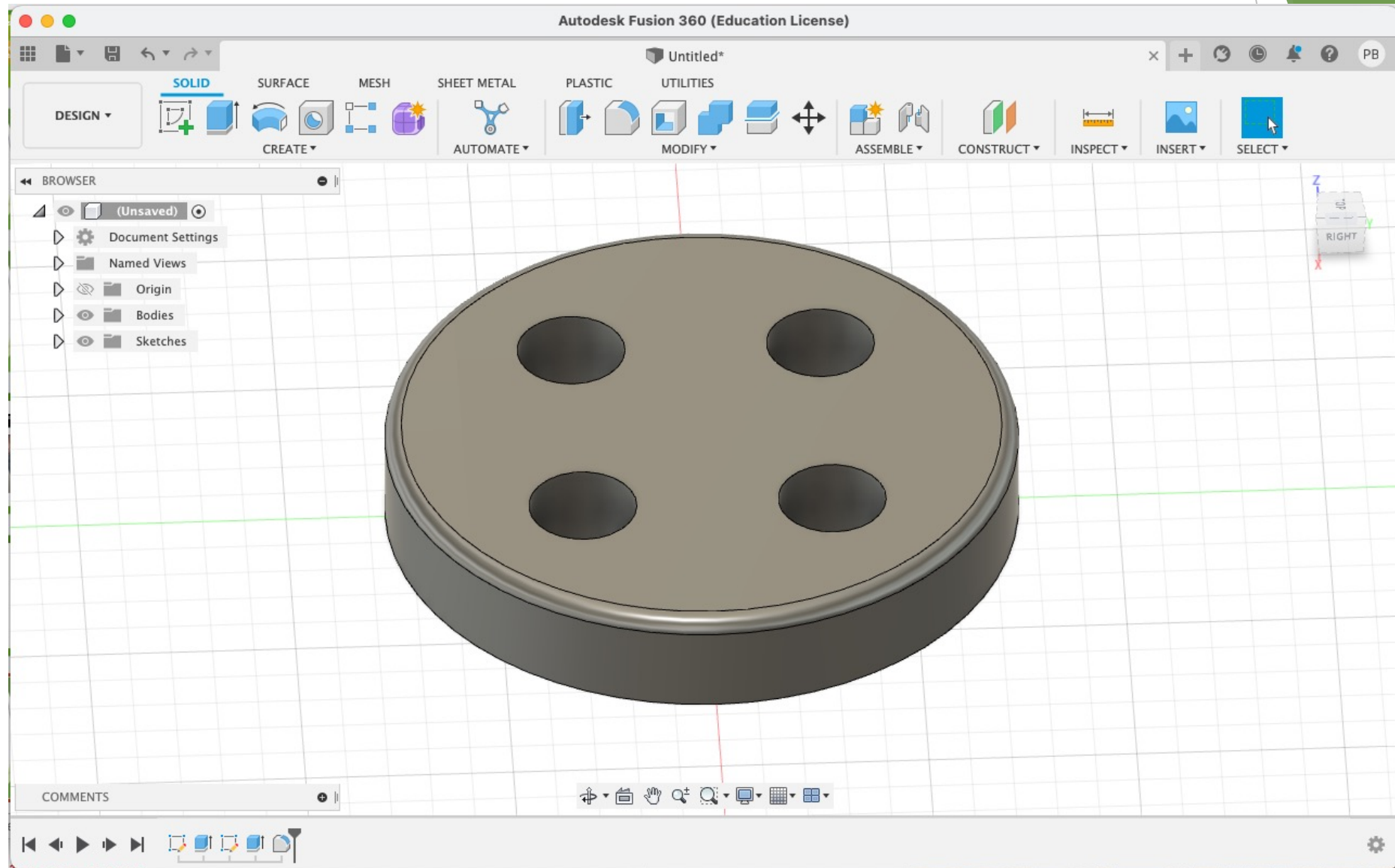
Some good for hobby design, some for professional

Some meant for engineering, some for art/professional design

# 3D Design Process



# Fusion 360





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Simple 3D design and 3D printing app

Platform:

Get started



Software or Browser Access

Cloud-based CAD, CAM, CAE, and PCB software. Continue for access, then install Fusion 360 (multiple languages available) or run Fusion 360 from [fusion.online.autodesk.com](https://fusion.online.autodesk.com)

Platform:

Get started



Plan, design, construct, and manage buildings with powerful tools for Building Information Modeling.

Platform:

Get started



Revit Generative Design

Note: this product requires Autodesk Revit 2021.

Quickly generate design alternatives based on your goals, constraints, and inputs to give you higher-performing options for data-driven decision making.

Platform:

Get started



Software for 2D and 3D CAD.

Includes access to AutoCAD Architecture, Electrical, Mechanical, Map3D, MEP, Plant 3D and AutoCAD Raster Design

Platform:

Get started



Software for 2D and 3D CAD

Platform:

Get started



Professional-grade product design and engineering tools for 3D mechanical design, simulation, visualization and documentation

Platform:

Get started



3D modeling, animation, and rendering software for games and design visualization

Platform:

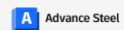
Get started



3D animation, modeling, simulation, and rendering software for film, games, and TV

Platform:

Get started



3D modeling software for steel detailing

Platform:

Get started



Automotive conceptual design, technical surfacing, and visualization.

Platform:

Get started



Global illumination rendering software

Platform:

Get started



# What to do with 2D or 3D models

- ▶ Subtractive manufacturing:
  - ▶ Start with piece of stock material (solid brick/sheet/rod of material)
  - ▶ Drill, cut, lathe, sand, file, etc.
- ▶ Additive manufacturing:
  - ▶ 3D printing: start with nothing but an empty panel
  - ▶ Add filament or cure resin