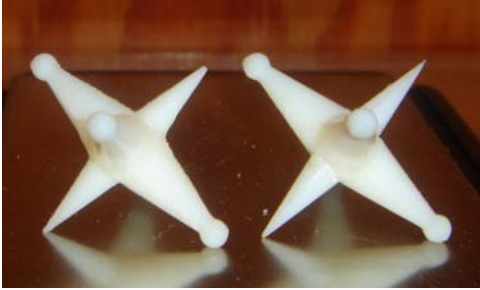
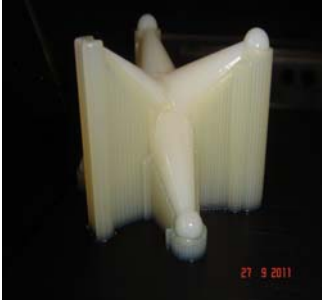



## Stereo-Lithography

- Advantages
  - No machining skill
  - No miscommunication
  - “Impossible” parts / assemblies
  - Fast (prototyping)
- Disadvantages
  - Material limitations
  - Cost
  - Slow (mass production)

## Stereo-Lithography

- How does it work?
  - Stacked 2-D “images”
  - Printing in air
    - Build (model) material
    - Support material
  - Why should you care?
    - You keep model material
    - You throw away support material
    - You PAY for both

<p>\$37.00 4 Hours</p>		<p>\$24.00 2½ Hours</p>
		

## Things You Can Make

- Durable working parts
  - Joints
  - Gears
  - Captive Assemblies
  - Intricate parts
  - Miniature parts
- Flexible parts
  - Snaps

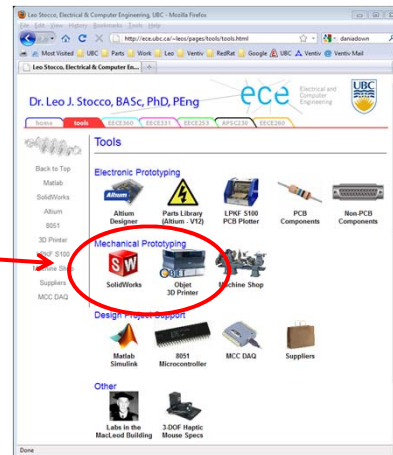


## Resources

- <https://download.ece.ubc.ca>
  - SolidWorks
  - Objet Studio
- [ece.ubc.ca/~leos](http://ece.ubc.ca/~leos)

SolidWorks help  
3-D Printing help

- Design guidelines
- Tutorials / Examples
- Documentation
- FAQ



## Important Specs

- Min. feature width : 1mm
- Min. feature width (sturdy) : 2mm
- Min. joint gap : 0.2mm
- Cost : 1\$ per gram (build + support)

## Caveats

- Large STL files
  - Spherical features
  - Small angle spec in STL generator
  - Keep STL file < 100MB
- Joints not easily freed
  - Large joint surface area
  - Coupled joints
  - Small (fragile) shafts
  - Glossy welds

## Fasteners

- Pressed Splines
- Screws
  - Machine vs sheet metal
- Retaining Rings
  - Internal
  - External
- Cotter Pins
- Flexible Snaps
- Crazy Glue

## Ordering Parts

- A quota must be set up by your instructor BEFORE you place your order. Price is \$1 per gram (build + support material).
- Send email to [help@ece.ubc.ca](mailto:help@ece.ubc.ca)
- Subject Line
  - 3D Printing (*Course Number*)
- Specify
  - Which group you are ordering parts for
  - Number of parts (refer to each .stl file)
  - Material (standard or flexible)
  - Special instructions (matte finish, printing orientation, etc.)
- Attach all associated .stl files
- Pick up parts in MCLD 112B when you receive an email that your parts are ready.

## Post-Processing

