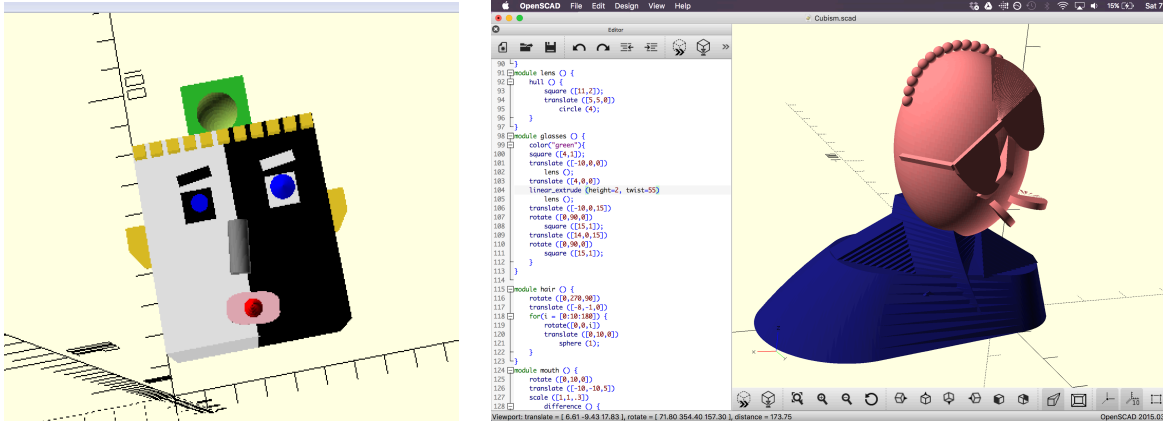


# OpenSCAD Cubism



**Overview:** This project introduces students to cubism using the 3D programming language OpenSCAD. By coding 2D and 3D shapes, students will create models inspired by the work of artists like Picasso and Braque.

## Due Dates (subject to change):

- 10/22 - All files and sketches due

## Requirements:

- 3 images of your subject matter from different angles
  - Subject matter should be typical of cubism: self portrait, face, figure with instrument, still life, etc.
- 3 hand-drawn sketches on graph paper (from 3 different angles) of fragmented shapes
- OpenSCAD file submitted via Dropbox
  - Code must contain **at least one of each** of the following:
    - polygon
    - module()
    - translate()
    - rotate()
    - scale()
    - color()
    - hull()
    - minkowski()
    - difference()
    - for()
    - linear\_extrude()
    - rotate\_extrude()
  - Properly indent code and use modules to avoid repetition in order to earn the highest grade.
- 1 STL on Sketchfab



- include tag #newmanF15
- include a title and description
- Note - **OpenSCAD can't export color**, so you might want to consider using Meshmixer if you'd like your final upload to look like the original.
- Presentation
  - 5 min +/- a minute
  - Discuss your process - start with your 2D images, follow with your sketches, and discuss how you made decisions about orientation, shape, volume, space, axis, etc. If your model had to fall under a type of cubism, which would it be? Why?
  - Walk us through your code (give the highlights) and explain how you created your shapes.
  - Optional: discuss a cubist painting or sculpture that inspired you.

### Grade Breakdown:

- 20% Images and sketches
  - Evaluated on effort, craftsmanship, and creativity.
  - How complex or diverse are the shapes that you identified in your subject?
- 60% OpenSCAD file
  - Evaluated on effort, code and artistic craftsmanship, creativity, and meeting the requirements.
    - **Effort:** Did you put time and energy into writing your code and arranging objects?
    - **Code Craftsmanship:** How complex is your code? How clean is your code? Did you indent lines properly? Did you try to prevent repetitive code by using modules?
    - **Artistic Craftsmanship:** How complex are your shapes? How intentional are your decisions about shape placement, axis, color, etc.?
    - **Creativity:** How unique are your shapes?
- 10% Peer Critiques
  - Evaluated on effort and insight.
- 10% Presentation
  - Evaluated on effort, thoroughness, and insight.

### Extra Credit

For an extra 5 points on your project, print the shapes in your file and assemble them.

- Due by 10/27
- Print must be <4" on any side.
- You may assemble using super glue.

