Final Exam — Take Home
Due Thursday, May 7, 5:30 pm

This is a take-home exam. If you submit it before the due date I will attempt to make a 3D print of your object before the end of the semester. You may ask me questions, if needed, and you may refer to the course materials and various OpenSCAD and Makerware instructions and help, but you may not consult any other source human or nonhuman. The results are to be submitted directly into Blackboard.

Prepare the icosahedron for 3D printing by carrying out the followings steps. If you wish to use a different or additional shape, please contact me in advance for approval.

- Use your previous calculations on the coordinates and triangles of the icosahedron to create a model within OpenSCAD. You can use the file "puzzlepiece.scad" as an example. Remember that all triangles must be described by a clockwise sequence of vertices. Use exact coordinates (e.g., making use of the sqrt function rather than decimal approximations). Save this .scad file and submit it into Blackboard.

- Export your model out of OpenSCAD as a .obj file and submit it into Blackboard.

- Import your .obj file into Makerware and manipulate it so that it is well-positioned on the printer bed. Save the result as a .thing file and submit it into Blackboard.

- Carry out a "Make" preview — this should provide you with information on the printing time. Make a screenshot so that I can see this preview, and submit it into Blackboard.

- Create an .x3g file and submit it into Blackboard.

- I believe Blackboard will accept uploads of multiple files, but if not, the files can be emailed directly to me. Include a clear Subject in these emails.