



MATHEMATICAL ART

Coordinating design and 3D printing

**Christopher R. H. Hanusa
Queens College Mathematics**

EXPERIENTIAL LEARNING

- **Math 213: Math with Mathematica**
 - **Early math majors, varied programming experience**

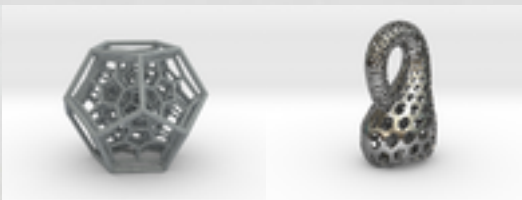
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 - **Motivation**
 - **Developing skills along the way**
 - **Personalized instruction**

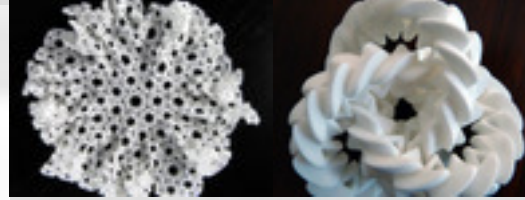
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- **Projects**
 - Project 1: Tutorial from a previous math class
 - Project 2: Mathematical Art
 - Project 3: Interactive Worksheet

MATHEMATICS + ART ?



**Bathsheba
Sculpture**



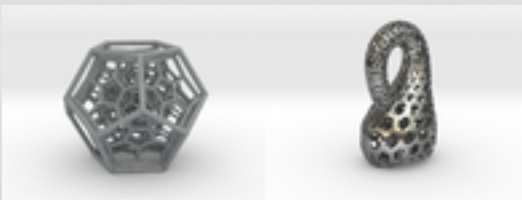
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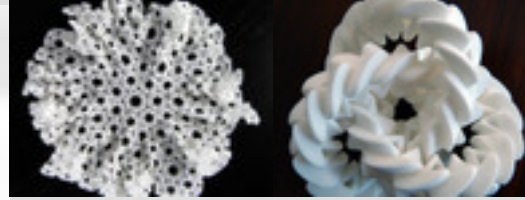
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- Higher Dimensions

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- **Project Requirements:**
 - **Based on mathematical idea or concepts**
 - **Uses functional techniques from Mathematica**
 - **Takes artistic considerations into account**
 - **Has been critiqued, refined, and revised multiple times**

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- **Individual attention**
 - One-on-One consultation in class (Office hours)

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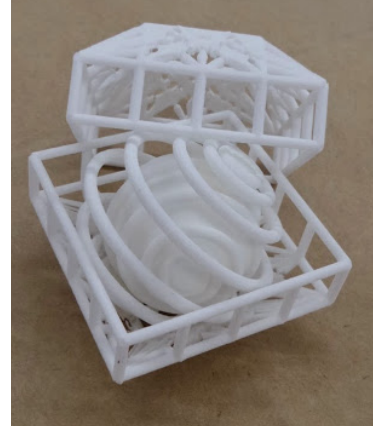
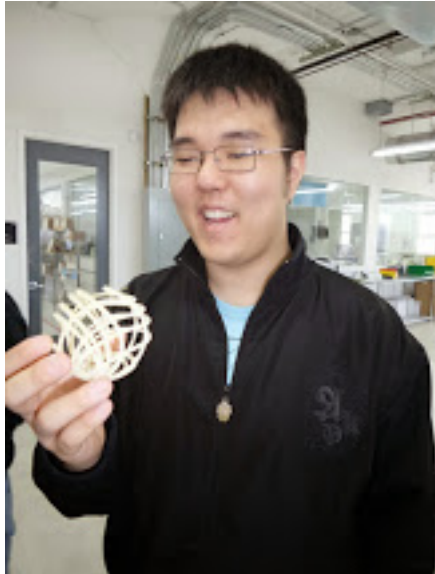
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- **Resizing (was) hard.**



Success!



Trip to Shapeways April 29, 2015

STUDENT COMMENTS

- **"This project allowed me to let my imagination soar while still learning about math concepts and modeling."**
- **"The art project was challenging but still managed to be fun ... extremely satisfied when the object came to life."**
- **"I learned how to think in three dimensions."**
- **"Having a physical copy of the project was one of the greatest things ever."**
- **"I like the creative freedom that we given to complete this project."**
- **"The trip was very informative and was also very fun to attend. Thanks again Professor."**

THANK YOU!

qc.edu/~chanusa

> **Course Archive**
Tutorials & Photo Gallery

> **Talks**
Slides Available

- **Shapeways and Lauren Slowik!**
- **My students, who amaze and inspire, EVERY TIME!**

